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# THE BUILDER

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## THIS WEEK'S NEWS

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THE MARS Group announce that the first CIAM International Summer School of Architecture will be held in London from August 8 to September 3. The School will be held at the A.A. 235

THE Buildings Advisory Committee of the Nursery School Association have evolved a revolutionary type of building which, while reducing the cost per place to below £200, retains the essential standards of space and educational requirements. The Ministry of Education have approved in principle the erection of a prototype (illustrated) as a special experiment. 238

NEEDWOOD HOUSE, the first of four eight-storey blocks of flats to be completed on the London County Council's Woodberry Down Estate, Stoke Newington, was formally opened by Mr. John Edwards, O.B.E., M.P., Parliamentary Secretary to the Board of Trade, on February 17. The flats are illustrated and described. 246

THE construction of America's first shopping centre for cars, at which patrons can make all their purchases while sitting in their vehicles, is to begin in Chicago this spring. 249

THE R.I.B.A. Council has agreed to make representations jointly with A.R.C.U.K. to the Minister of Works with a view to establishing that the time of instituting proceedings under Defence Regulation 56A should be reckoned from such a date as would enable the case to be heard by a court of summary jurisdiction, and thus avoid the person charged appearing in the dock. 251

THE application of colour in buildings, with particular reference to primary schools in Hertfordshire, was described by Mr. D. L. Medd, A.R.I.B.A., of the Hertfordshire County Council's Architect's Department, in a recent talk in London. 251

SPEAKING at Cambridge on February 18, Mr. Norman Longley, President, N.F.B.T.E., appealed to all builders, whether members of the National Federation or not, to "go all out to finish houses more quickly during the coming building season." He made the appeal, he added, at the request of the Minister of Health. 256

MR. W. H. EDWARDS, Wolverhampton District Organiser, A.U.B.T.W., has contributed to "The Building Worker," the union's official organ, an article setting out the reasons why he considers incentive and bonus systems of payment in the building industry should be discontinued at the end of the year. 256

REGIONAL hospital boards have been informed by the Ministry of Health that they are to receive more steel from April 1 to enable work to start on building and development. 256

## EXPERIMENTS IN HOUSING

A LANDMARK in 1944 was the publication of the first report of the committee on house construction set up by the Minister of Health, the Secretary of State for Scotland and the Minister of Works, and chaired by Sir George Burt. This first report was perhaps the chief literary contribution to the interest in prefabrication which distinguished that year, concerned as it was with the future housing problem. It was also the first of the Post-War Building Studies, a series which followed its lead in providing technical notes on the latest research and progress, covering almost the whole field of building.

In its way that report has become a classic. For the first time basic standards were laid down for house construction, providing a standard for testing the many different systems of prefabrication put forward by private firms. In the same report a complete survey was printed of the alternative forms of construction developed between the two wars.

The Burt Committee was reconstituted in 1944 with a view to advising on new methods, and it produced a second report which reviewed eight experimental house types. The third and final report now published,* No. 25 in the series of Post-War Building Studies, goes on to consider a further ten house types all of which were recommended for the granting of experimental building licences, so that the report embodies the results of tests on actual prototypes. Each house type is described under the components of its construction, and its efficiency under a series of tests is analysed and conclusions drawn as to its defects or merits. In some instances "development groups" of the houses were later constructed in which efforts were made to remedy the disadvantages of the prototypes.

Of the ten types reviewed, three rely upon a system of precast posts and beams with concrete panel infilling, whilst a fourth is constructed with a system of precast concrete tray-shape units. The possible risk with such methods is that moisture may penetrate either through the joints between the panels or through cracks in the panels due to shrinkage and inadequate curing. This is also true of the one method where the house is constructed of large factory-made foamed slag units. One house was built with solid 12 in. walls of "no-fines" concrete poured *in situ* between wire-mesh formwork. This is not a method depending on prefabrication, but (as was to be discovered from the Ministry of Works Special Report on "New Methods of House Construction") the *in situ* concrete methods have proved probably the cheapest of the alternative systems because the walls are built fairly rapidly with very little skilled labour. Bearing in mind the views of the Special Report, the other four systems—making use as they do of steel and timber for framing purposes—are not likely to be developed to any extent while the supply of these materials continues to present difficulties.

* Post-War Building Studies, No. 25: House Construction. Third Report of an Inter-departmental Committee appointed by the Minister of Health, the Secretary of State for Scotland and the Minister of Works. H.M.S.O., price 2s. net (2s. 3d. post free).

When dealing with the steel-framed houses, such as the Coventry Corporation House, designed by Mr. D. E. E. Gibson, M.A., A.R.I.B.A., which has a frame of welded tubular steel members, the Committee stresses that adequate anti-corrosion treatment is essential. The methods of protecting steel were given a special section in the Second Report.

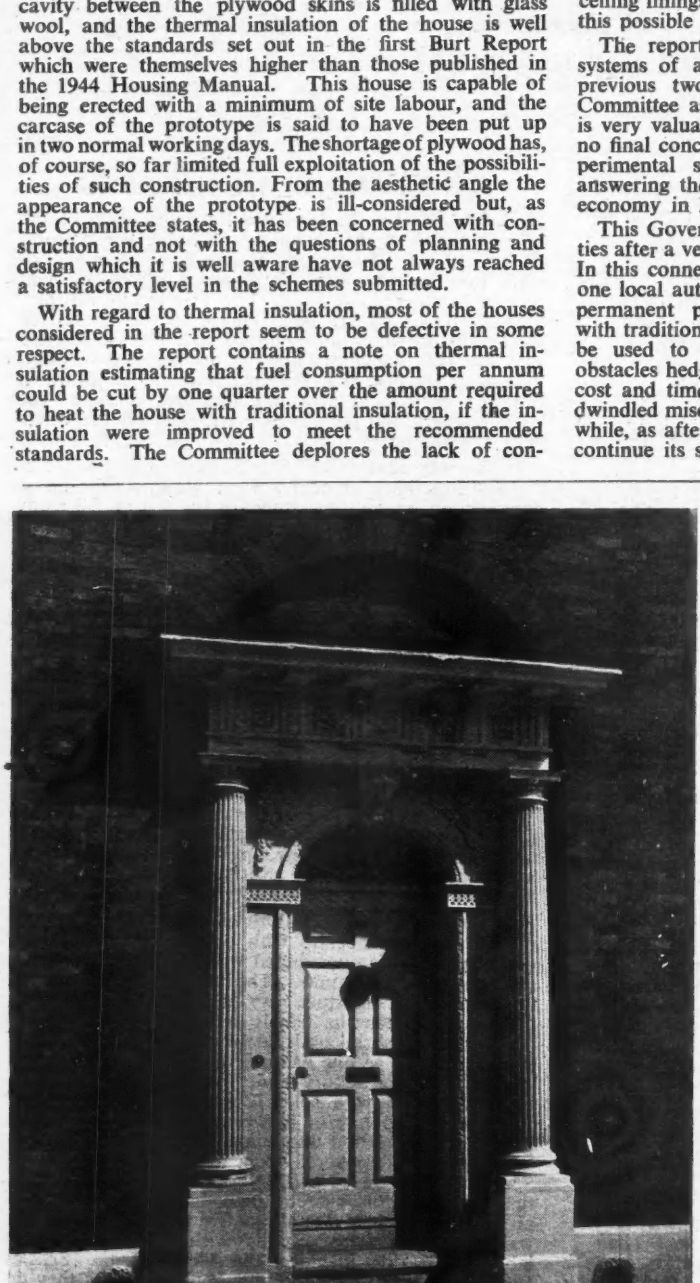
The stressed skin construction employed in one example has apparently been brought to a high standard of structural soundness and finish. In this instance the cavity between the plywood skins is filled with glass wool, and the thermal insulation of the house is well above the standards set out in the first Burt Report which were themselves higher than those published in the 1944 Housing Manual. This house is capable of being erected with a minimum of site labour, and the carcase of the prototype is said to have been put up in two normal working days. The shortage of plywood has, of course, so far limited full exploitation of the possibilities of such construction. From the aesthetic angle the appearance of the prototype is ill-considered but, as the Committee states, it has been concerned with construction and not with the questions of planning and design which it is well aware have not always reached a satisfactory level in the schemes submitted.

With regard to thermal insulation, most of the houses considered in the report seem to be defective in some respect. The report contains a note on thermal insulation estimating that fuel consumption per annum could be cut by one quarter over the amount required to heat the house with traditional insulation, if the insulation were improved to meet the recommended standards. The Committee deplores the lack of concern with improving insulation, particularly in traditional houses, and endeavours to show that this is not a matter of practical or economic difficulty.

The party wall would appear to be a weak point of many of the systems dealt with, often being below standard in reduction of sound transmission. All the framed systems involving a jointed internal lining of fibre board or similar material are open to the risk of vermin infestation, and should this occur there would be the considerable task of removing the wall and ceiling linings. A sealing coat of plaster would remove this possible source of trouble.

The report ends with a comprehensive list of the systems of alternative construction referred to in the previous two reports and others approved by the Committee as suitable for development. This in itself is very valuable, but it is to be regretted that there is no final conclusion on the relationship between the experimental systems and the traditional methods in answering the questions of rapidity of construction and economy in labour and materials.

This Government Committee has concluded its activities after a very useful existence of four and a half years. In this connection it is interesting to read that at least one local authority has stated that, unless the prices of permanent prefabricated houses become comparable with traditional houses, alternative methods are likely to be used to a decreased extent. In the face of the obstacles hedging them about, the high hopes of beating cost and time by the invocation of the machine have dwindled miserably since the first Burt Report appeared, while, as after the 1914 war, the brick house survives to continue its service.



**AN ADAM DOORWAY, LOWESTOFT. This doorway, at No. 55, High-street, has recently been cleaned and repainted for the owner, Mrs. G. Jago, in traditional Adam cream. The doorway is mentioned in the "Factual Survey of Lowestoft," recently prepared by the Corporation.**

# NOTES AND NEWS

**Restricted Competitions.**

THE motives which have impelled the Imperial War Graves Commission to restrict entries in a competition for designs for a war memorial at Lee-on-Solent to architects who are ex-serving members of H.M. Forces are, without doubt, well-intentioned. A correspondent, however, has put forward another view. He states:

"The introduction of such a restriction is hardly suitable for architectural competitions generally. After all, it is the result that matters, and very few ex-servicemen would not agree that this particularising, when the subject of fine design is involved, is a questionable policy, especially as memorial design in the past has frequently been of uncertain quality. No doubt the organisers of the Lee-on-Solent competition introduced this restriction for the best possible reasons, but the fact remains that it is an architectural competition, and should therefore be open to all qualified architects."

**Vienna State Opera House.**

VIENNA'S majestic and ornate State Opera House, erected in 1869 from the designs of the Viennese architects Eduard van der Nüll and August Siccard von Siccardsburg, was heavily bombed on March 12, 1945, when the great auditorium was completely wrecked and other parts of the building severely damaged. Much of the structure, nevertheless, remained intact, including the architectural shell, the entrance hall and staircase, the foyer and loggia, the ante-room to the Emperor's box, and other features; and the Ministry for Trade and Reconstruction decided to hold an architectural competition for the necessary rebuilding. There were three main tasks: first, to rebuild the auditorium; secondly, to provide a simple plan, particularly with reference to the staircases and internal means of communication; and, thirdly, to provide new public rooms. The replanning of

the stage area was not included in the competition but is being studied independently by specialists.

First a preliminary general competition was held, then a second one confined to eight selected architects. The jury has now awarded first place to the design submitted by Erich Boltenstern, which is illustrated by perspective drawings in the January issue of "Architectural Prospect" (Lund Humphries and Co.), together with other designs. Unfortunately, no plans are shown. The report of the jury states that the possibility was considered of changing the old box-type of theatre to one of balcony construction, but no satisfactory project was submitted of a theatre without boxes, and the only noteworthy solutions were among those which combined both types. The winning design which provides some improvements to the basic ground plan which had been furnished to competitors by the Ministry of Reconstruction preserves the traditional form of the old opera house without merely copying its style. Repairs to the structure were proceeding until the early part of February, when they were stopped, as part of the retrenchment measures contained in the new Austrian budget, but apparently nothing was being done about the auditorium; it is rather vaguely stated that the architectural competition "should soon result in final definite suggestions."

**CIAM Summer School in London.**

THE MARS Group announce that the first CIAM International Summer School of Architecture will be held in London, from August 8 to September 3. The School, postponed from 1948, will be held at the Architectural Association, Bedford-square, and will be under the direction of Mr. Maxwell Fry, F.R.I.B.A., with Miss Jacqueline Tyrwhitt as Assistant Director and members of the MARS Group as studio tutors. Prominent members of CIAM, whom it is expected will include M. le Corbusier, Mr. Van Eesteren, Dr. Giedion, Dr. and Helena Syrkus and Mr. Jose Louis Sert, will visit the school and give public lectures.

Membership is limited to 40 students, half drawn from nominees of the various national groups of CIAM and half from architects of post-graduate status, resident in the British Isles.

The school is in no sense a conference and is not concerned so much with research as with architecture. Four main subjects for study have been drawn up, based upon actual sites in London. These subjects range from housing and town planning to public building.

**Arrangements for the School.**

MR. DAN STANTON, 34, Gordon-square, W.C.1, is the Bursar of the Summer School and the membership fee for the course is £5, which includes attendance at public lectures.

This nominal fee is made possible by the generosity of the Architectural Association, of MARS Group members, all of whom will give their services free, and of a group of friends of modern architecture, which has contributed towards the essential expenses.

Intending applicants should apply as early as possible to the Bursar, stating age, qualifications and details of architectural ability.

The MARS Group hope that private architects or public authorities in whose employment intending students of the school may be, will consider the experience sufficiently valuable both to the student and to themselves to facilitate an absence of a month to attend the school.

**The Tite and Soane, 1949.**

THE R.I.B.A. Board of Architectural Education calls the attention of intending competitors for the Tite Prize and Soane Medallion competitions, 1949, to the fact that the closing date for the submission of forms of application for the Tite Prize is April 1, and for the Soane Medallion April 4.

Under the new arrangements for the Tite only one *en loge* competition will be held. This will take place in London and at non-metropolitan centres on Wednesday, May 4. The *en loge* competition for the Soane Medallion will be held on the same day.

Forms of application for admission to the competitions may be obtained at the R.I.B.A., 66, Portland-place, W.1.

**Open-air Sculpture Working Party.**

IN view of the success of the open-air exhibition of sculpture held in Battersea Park last summer, the L.C.C. have appointed a working party to advise them on the arrangements for holding a further exhibition on similar lines in 1951. Mr. Frank Dobson, Mr. Henry Moore and Mr. Charles Wheeler, who represented sculptors on the last working party, have given way to Mr. Jacob Epstein, Miss Barbara Hepworth and Mr. Gilbert Ledward.

**Replanning the Thames Valley.**

THE West Middlesex Joint Planning Committee has issued a report dealing with the planning of the Middlesex bank of the Thames from Chiswick to Staines.

**"Design in Industry" Lecture Tour.**

MR. MILNER GRAY, President of the Society of Industrial Artists, will leave Britain on February 23 for a six weeks' lecture tour arranged by the British Council in Australia and New Zealand. He will lecture to industrial design specialists and the general public on design in industry.

**Scientist's New Appointment.**

SIR EDWARD APPLETON, K.B.E., K.C.B., will relinquish his appointment as secretary to the Committee of the Privy Council for Scientific and Industrial Research on April 30. Sir Ben Lockspeiser, M.A., M.I.Mech.E., F.R.Ae.S., chief scientist at the Ministry of Supply, has been appointed to this position and will take up his duties on May 1.

**A Liverpool Appointment.**

LIVERPOOL Corporation Chief Officers Appointments Committee has recommended Mr. E. H. Bloomfield, A.R.I.B.A. A.M.I.Struct.E., principal architect and Acting Deputy Housing Director for Liverpool, for the post of Deputy Housing Director, at a salary of £1,500 rising by annual increments of £50 to £2,000.

The Committee has decided to advertise for a Deputy City Architect at a salary of £1,500 rising by annual increments of £50 to £2,000.

**An Appointment.**

MR. THOMAS ARNOLD BRITTAIN, Dipl.Arch, A.R.I.B.A., M.R.S.I., chief architectural assistant, Burton-on-Trent Corporation, is to take up an appointment as architect to the Widnes Corporation.

**Borough Architect Recommendation.**

MR. W. P. CLAYTON, A.R.I.B.A., Chief Assistant Architect, West Bromwich, has been recommended as Borough Architect, Wallasey, at a salary of £1,400.

**Professional Announcement.**

MESSRS. SCHERRER & HICKS, M.A., FF.R.I.B.A., of 310, Upper Regent-street, W.1, announce that they will be moving from their office at 10, Dover-street, W.1, to 18, Harcourt-house, 19, Cavendish-square, W.1 (tel.: Museum 1105/6), as from February 25.

## COMING EVENTS

**Monday, February 28.**

TIMBER DEVELOPMENT ASSOCIATION, LTD.—"Timber as a Raw Material," by Mr. H. A. Cox, M.A., Dip. For. Polytechnic, Regent-st., W.1. 7.15 p.m.

ROYAL SOCIETY OF ARTS.—"The Corrosion of Metals (Lecture 2), Preventive Measures," by Mr. W. H. J. Vernon, O.B.E., D.Sc. John Adam-st., W.C.2. 8 p.m.

THE TRAVEL ASSOCIATION.—"Britain—New Photographs." Exhibition at Tourist Information Centre, 47, Leicester-sq., W.C.2. 10 a.m. to 5 p.m. daily, until March 12. (Saturdays, 10 a.m. to 12 noon.)

**Tuesday, March 1.**

ROYAL INSTITUTE OF BRITISH ARCHITECTS.—"The Town and Country Planning Act: Some Implications for Architects," by Sir Thomas Sheepshanks, K.C.B., K.B.E. 66, Portland-pl., W.1. 6 p.m.

**Wednesday, March 2.**

ARCHITECTURAL ASSOCIATION. — "The Architects' Place in Our Education." Joint members' and students' evening. 34, Bedford-sq., W.C.1. 7.30 p.m.

THE INSTITUTION OF HEATING AND VENTILATING ENGINEERS.—"Post-war Research on Heating and Ventilation at the Building Research Station," by Mr. A. Pickles, O.B.E., M.A. Institution of Mechanical Engineers, Storey's Gate, Westminster, S.W.1. 6 p.m.

ROYAL SOCIETY OF ARTS.—"British Industrial Design and World Markets," by Mr. John Gloag, Hon. A.R.I.B.A. John Adam-st., W.C.2. 2.30 p.m.

NATIONAL INSTITUTE OF INDUSTRIAL PSYCHOLOGY.—"The Utilisation of Techniques and Knowledge in Industry," by Mr. P. Dunsheath, C.B.E., D.Sc. The Lecture Theatre, London School of Hygiene and Tropical Medicine, Keppel-st., W.C.1. 6 p.m.

**Thursday, March 3.**

ROYAL INSTITUTE OF BRITISH ARCHITECTS.—"The Architect in Industry." Two-day conference. 66, Portland-pl., W.1. (Exhibition on same theme until March 26, weekdays, 10 a.m.–7 p.m.; Saturdays, 10 a.m.–5 p.m.)

TOWN PLANNING INSTITUTE.—"Design of Parks and Public Gardens," by Mr. E. Prentice Mawson (F). Caxton Hall, Westminster, S.W.1. 5.30 p.m.

THE ENGINEERS' GUILD.—"The Guild as an Association of Professional Engineers," by Mr. W. A. M. Allan, A.C.G.I., and Mr. J. H. W. Turner, B.Sc.(Econ.). 28, Victoria-st., S.W.1. 6 p.m.

UNIVERSITY COLLEGE, LONDON.—"Italian Renaissance Architecture," by Mr. R. C. White-Cooper, F.R.I.B.A. Anatomy Theatre, Gower-st., W.C.1. 1.15 p.m.

ROYAL INSTITUTION OF GREAT BRITAIN.—"Royal Building Under the Stuarts: (2) The Surveyorship of Inigo Jones," by Mr. John Summerson, A.R.I.B.A. 21, Albemarle-st., W.1. 5.15 p.m.

THE CHARTERED AUCTIONEERS' AND ESTATE AGENTS' INSTITUTE.—"Land Planning and the Economic Functions of Ownership," by Sir Arnold Plant, B.Com., B.Sc., 29, Lincoln's Inn Fields, W.C.2. 6 p.m.

THE INSTITUTION OF SANITARY ENGINEERS.—"Brains Trust." Question Master, Mr. G. Lloyd Ackers, M.I.C.E. Caxton Hall, Westminster, S.W.1. 6 p.m.

## FROM "THE BUILDER" OF 1849

*Saturday, February 24, 1849.*

THE COST OF THE CITY AND SURREY GAOLS.—If we were to print some of the comments we have received on this matter generally, they would displease more persons than one, and so far as we can see would do no good. Considerable surprise is expressed as to the difference of cost between the two prisons. The Surrey prison, to be built on Wandsworth-common, is to contain, as we understand, 790 cells, including chapel, laundry, boundary walls and airing-grounds. The City prison, to be built at Holloway, is to contain 500 cells, chapel, laundry and boundary walls. The Surrey prison is to cost 130*l.* per cell and the City of London 154*l.* per cell.

# FORCE AND FORM

## The Aesthetics of Stress Distribution

MR. FELIX J. SAMUELY, B.Sc., A.M.I.C.E., M.I.Struct.E., described the æsthetics of stress distribution when he gave an Architectural Science Board lecture at the Royal Institute of British Architects on February 15.

Mr. Samuely illustrated his lecture with a number of lantern slides, and following are some of the general remarks he made.

I have no intention of talking about functionalism or anti-functionalism. All that interests me is this: if someone wants to show the structure, the stresses, how is he to do it, and if someone wants to hide them, how is he to do it?

It is interesting to find that there is a constant oscillation in people's minds about how important it is to show the structure. While I am not going to deal with that in detail, I should like to say that there appears to me to be a quantitative rather than a qualitative difference between the functionalists and the anti-functionalists. Apart from a few structures which have a single purpose only, such as bridges, it is not really possible for anybody to show the function of the stress without any compromise whatever. Similarly, there are very few buildings in which the structure can be put completely into the background.

I am interested in this problem for another reason also. During the Middle Ages, certain forms appeared which were dictated, or at any rate influenced, by structural considerations. It took several hundred years for such a form to take shape after the materials, the labour, and so on, reached the stage when that shape became possible or useful; even after people's minds were ready to accept a certain shape it took quite a time to form it. That did not matter, because changes did not take place quickly, and what was right in the year A.D. 1100 was almost right in the year 1200.

Things are very different to-day. There are certain techniques to-day which make it possible to do a certain kind of architecture. Such a technique however, is useful only for, let us say, 20 to 40 years, and if the architect does not catch up with what is happening, and does not use that technique for his shapes in the early stages, he may never come to do so at all.

About 20 years ago the welding of steelwork was introduced. Personally, I am of opinion that welded steelwork is of immense importance to the shaping of buildings, but, when we look round, what effect on architecture has the welding of steelwork really had? Although 20 years have passed since its introduction, it has so far had little effect. There is good reason to believe that in 20 years' time welded steelwork will not be used any more; it may be superseded entirely by aluminium. That is merely my belief, and not something that I am stating definitely; but, if that is so, half the time has gone, and there is not very much more time left.

An architect may show the structure, or he may exaggerate the structure, or he may detract from the structure. All three attitudes are well known in history, but there is one interesting point which I should like to make here. If to-day the architect wants to detract from a structure, he usually hides it, but if 300 or 400 years ago an architect wanted to detract from the structure, he had an entirely different means of doing so. He knew that certain lines and curves would do that, without hiding the structure.

There is food for thought there. It may be that something which I mentioned earlier is responsible for this, namely, that there is not enough knowledge about the structure, how to show it, how to hide it, and how to detract from it; and so to-day, if the structure does not seem to be the right sort of thing to show, it is just hidden away behind a false ceiling or walling. It may be, on the other hand, that there is another reason, namely, that we have much more involved buildings to-day than we had 200 years ago, and these involved buildings do not allow the showing of structure so much. I keep an open mind on that point; I merely want to mention it.

**The canteen at the May and Baker Factory, Dagenham. E. D. Mills, F.R.I.B.A., Architect.**

There are some traps into which anyone who wants to show a structure may fall. In the first place, the structure, the stresses, will give a pleasant, æsthetic effect only if both the external and internal loads can be shown. Unfortunately, there are hundreds of cases where you cannot show the load. Even with an ordinary bridge you have to imagine the load. You can see a column standing on a structure, but you cannot, if you are inside a room, see the column in the next storey, which possibly is carried on the structure. If you shape the structure to carry this column on the next floor, you have something that is incomplete. I would not say that it is necessarily something that is ugly; on the contrary, it may be very pleasant in a different way. It, so to speak, infers something that is not there. In certain cases we may not want to infer things that are not there, but in others we may. The architect, therefore, may often have to deviate from the actual stresses or actual structure to show something different.

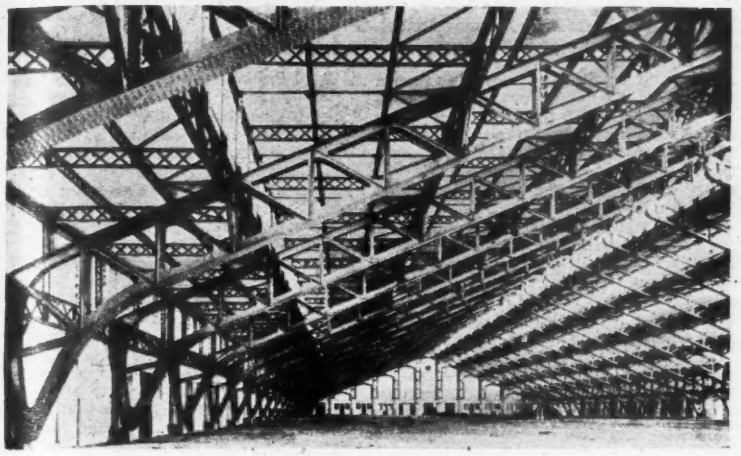
**Establishing a Rule.**

There are, however, numbers of other cases. No one can imagine that carrying stresses is in every case a main function of a building; in a block of flats, for instance, it may distract your attention very much if you see the whole structure in every room. There may be other things that you want to show, and not the structure, and then you will not show the structure. Without going into the question of when to show it and when not to do so, which is outside my province, let me put it in this way: both attitudes are correct at certain times, and we have to establish a certain rule about when to show, when to emphasise, and when to detract from the structure.

Let me give you an example of emphasising the structure. You all know the Roman arch with columns in front which are not really used. This is a case of emphasising the structure. They put the structure in front of you, so that you can see it clearly. It is not necessary structurally, but the actual structure does not create a sufficiently clear impression. To give another instance, very often in early Gothic the structure lines are so over-exaggerated that you cannot but think of structure all the time, and sometimes not even of the right structure.

With regard to the possibility of hiding the structure, I have already said that in the Middle Ages they knew how to detract from the structure without hiding it. There is an example of this at Rochester Cathedral, but you find the same technique in Norman churches generally. The columns are sitting on round Norman arches, which is definitely incorrect, but in that way the eye is somewhat distracted from the actual working of the stresses. A very subtle way of doing it is to show an incision in the line of arches. Strictly speaking, if an arch is showing the line of stress, the last thing which should be allowed is any incision in the line, which should be continuous.

The speaker then went on to say that perhaps he was guilty of exaggerating when he said that modern construction had had no influence on architecture. It had probably had some influence, but that influence had not been very widespread; one had to go far to find it, and examples were not very numerous, but he mentioned, among others, a canteen in ordinary shell construction, for Messrs. May and Baker, at Dagenham, for which Edward Mills was the architect. The Dome at Folkestone also suggested an appropriate shape, brought into relationship to the surroundings.



**The Market Hall, Lyons.**

**Lattice Construction.**

Finally Mr. Samuely mentioned lattice construction, of which he was in favour, and said: Lattice construction, using as it does more labour and less material, is very suited to these times. It follows a general trend which has been evident in other countries for some time, and which we are taking up here. It is becoming of greater importance because more and more labour-saving devices are being invented, which means that labour becomes cheaper, so that you can use more; on the other hand, material does not become cheaper to the same extent. For that economic reason, the lattice girder is important.

Secondly, I believe that aluminium will have an important part to play in construction. It is entirely uneconomic at present, but I have good reason to believe that in 10 or 20 years' time it will not be uneconomic. If we use aluminium, labour is not so important, but the material is extremely expensive, and so lattice construction is to be recommended.

A curious thing has happened during the last 100 years; architects have, I think, become uninterested in lattice work, so uninterested that they are not very worried, when they put up a building, about how the verticals run; they just let the engineer do it. That may be right, but as the engineer is not being asked to give these members any particular shape you cannot expect a very beautiful building to result.

I think that there are three reasons why architects have not been interested. First of all, in perspective many lattice girders are overcut in such a way that it is not possible to see anything. Secondly, riveted girders may be made from angles and channels and do not clearly indicate where the strength lies; the weak and strong members look the same, and you do not get any differentiation. Thirdly, the triangulation in some cases is somewhat inhuman and results in lack of interest.

A lattice girder bridge can be simply uninteresting, but with welded construction, and particularly with precast concrete, you come to shapes which are far from uninteresting. If you examine the construction for the market hall in Lyons, one side looks interesting, because it looks like a pattern, but on the other side it is difficult to distinguish the structure members. As compared with that the illustration of a schoolroom shows how the steelwork makes a pattern which is very pleasing. This is welded construction.

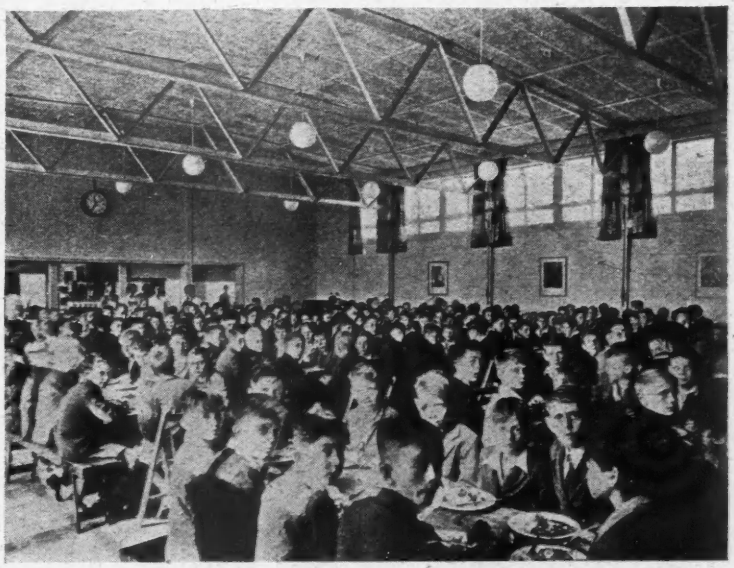
**Discussion.**

MR. HOWARD ROBERTSON, F.R.I.B.A., said the beauty of welding and the tremendous possibilities of lattice construction appealed to him. The building of shell construction in Madrid was, he thought, quite beautiful, and he was impressed by the possibilities of shell construction done in steel. Those seemed to be avenues open to the architect which could have a profound effect on our architecture.

MR. OVE N. ARUP said that he would have liked to discuss the question of whether to show stresses or not. Mr. Samuely had mentioned that some architects wanted to show stresses while others did not, and even went so far as to invent anti-stresses. He thought that the æsthetics of stress distribution were something which started in organic forms of nature. In architecture, however, we were to a greater extent making use of geometrical forms such as squares, triangles, cubes and cylinders. We used simple geometrical forms because we deliberately wanted to oppose to the chaotic surroundings a limited region of order and calm. This Classical spirit was occasionally disturbed by an upsurge of Romanticism, and we might get a fashion for organic forms and queer patterns like the Baroque, but he did not think it had anything to do with stress distribution; we used these forms because we liked them.

Functionalism did try to assert that showing the form was architecturally a contribution to architecture. But there was nothing inherently desirable about showing or concealing the structure. Functionalism mixed up cause and effect to a certain extent. There were many new materials and techniques coming in which exploded established ideas about proportion. The vanguard of æsthetes discovered that these new industrial forms could be very beautiful, and then architects invented a moral excuse for using them, but he thought that sensibility had nothing very much to do with stress distribution.

We really got an approach to organic or functional form in large structures, such as bridges and halls, where we could sometimes get very near to a pure organic form. On a smaller scale it generally did not pay to have that kind of form, and it was also doubtful whether it was architecturally desirable. Even in shell construction the forms used were simple mathematical functions, circles or cylinders or domes. There were many reasons for that. It might be that the theoretically correct form for a very large structure of that kind might be an organic form, and on the right scale it might provide a very imposing structure, but the trouble was that it would be too difficult and too expensive to build. Whether it would be beautiful architecturally would depend on architectural criteria; it would have to be seen in relation to other buildings. The question of stress distribution did not enter into it from that point of view. The economically correct stress distribution and the right use of materials were part of our effort to get what we wanted with slender means. It was an economic end, however, which we had in



**The dining-hall, Southbourne-gardens Senior School, Ruislip**
**H. V. Lobb, F.R.I.B.A., Architect.**

view, and whether we expressed the stress or not did not matter from an architectural point of view.

MR. LIONEL PEARCE, A.R.I.B.A., said he had seen some most extraordinary sections of stanchions and beams designed by Mr. Samuely, functionally very correct and made up in welded steel. His method of interlacing beams through stanchions was also very interesting. He made them continuous right through the stanchions, instead of making the stanchions continuous, vertically welded and cross-welded and plated. That made an extraordinarily strong joint, purely derived from his welding technique.

MR. PETER BOSANQUET, A.R.I.B.A., said that if a building was to express mankind's achievement in having built it, it seemed that there was a strong case for expressing the structure in some form or other; but if some completely psychological environment was to be created, there were often cases where colour, texture and form were the governing factors, and structure had to be concealed.

MR. LEONARD MICHAELS pointed out that he did not think it was so much a question of displaying or not displaying the structure, but rather of making sure that, since we had become accustomed to buildings which were based on non-tensile materials, that we designed the structure and used the materials so that architectural expression could develop from the nature of those materials.

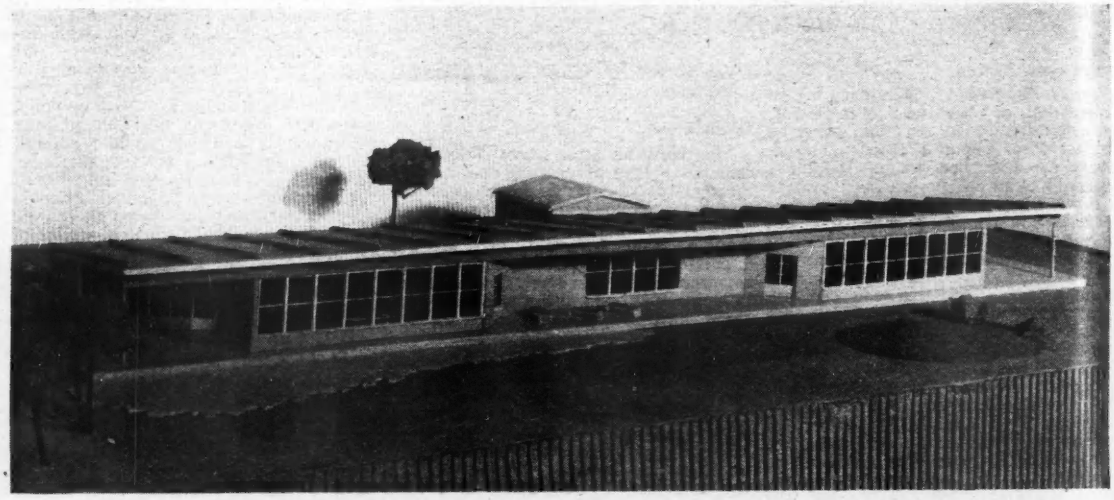
The Chairman, MR. MAXWELL FRY, F.R.I.B.A., said that architects were not so blind to structure as was sometimes supposed. Very few of them had any buildings in which the stresses mounted high enough to show; but, when they did, they regarded stresses as they would an extremely interesting child, who might be recognised but not allowed to become too significant.

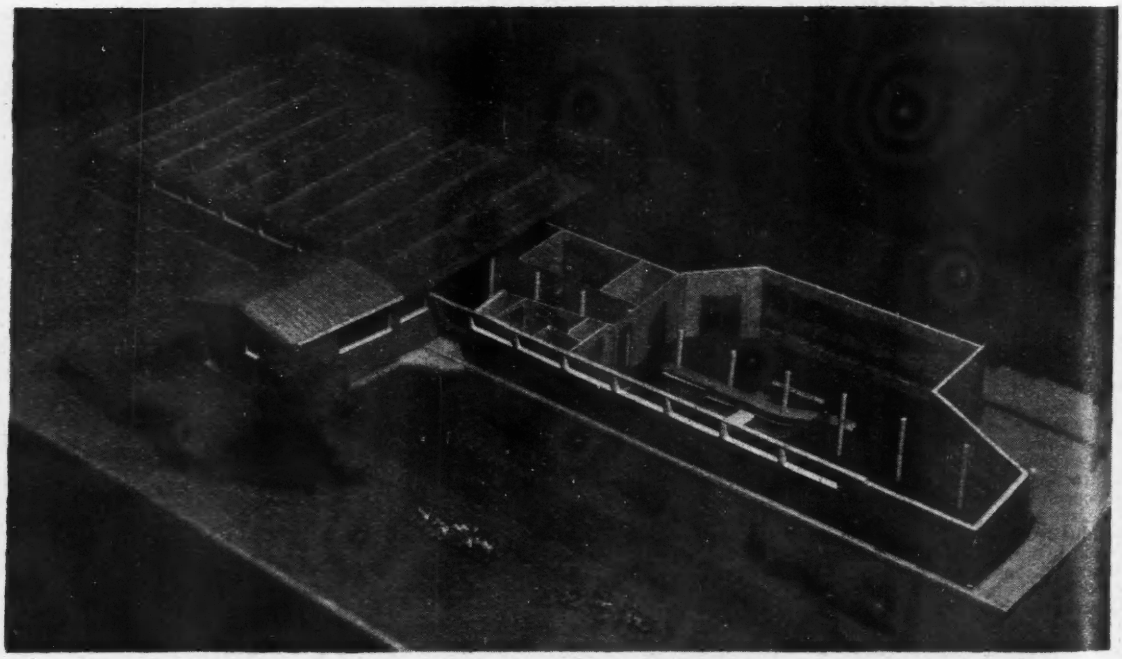
# NURSERY SCHOOLS

## A "Revolutionary" Design

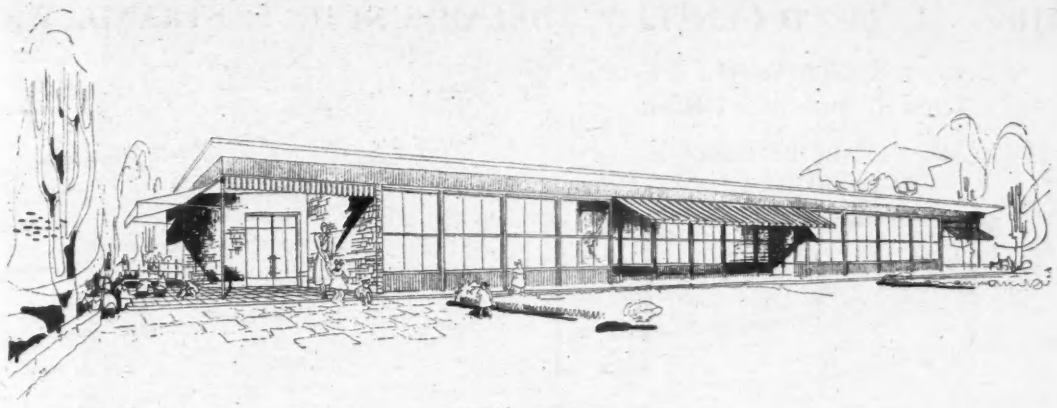
AN Exhibition—"Planning the New Nursery Schools"—was opened on Monday afternoon by Mrs. Clement Attlee at the headquarters of the Nursery School Association of Great Britain and Northern Ireland, 1, Park-crescent, W.1. It remains open until March 12 (daily from 10 a.m. to 5 p.m. except Saturdays, 10 a.m. to midday). Admission is free.

This Exhibition celebrates the Silver Jubilee of the Nursery School Association of Great Britain and Northern Ireland. The development of nursery school education is seriously checked because of the high building costs, and it was felt that the most appropriate way in which to celebrate the Association's jubilee was to help Local Education Authorities to





**PROPOSED NURSERY SCHOOL, TYPE No. 2.** *Above*: **General view of model.** *Below*: **View of model from above.**

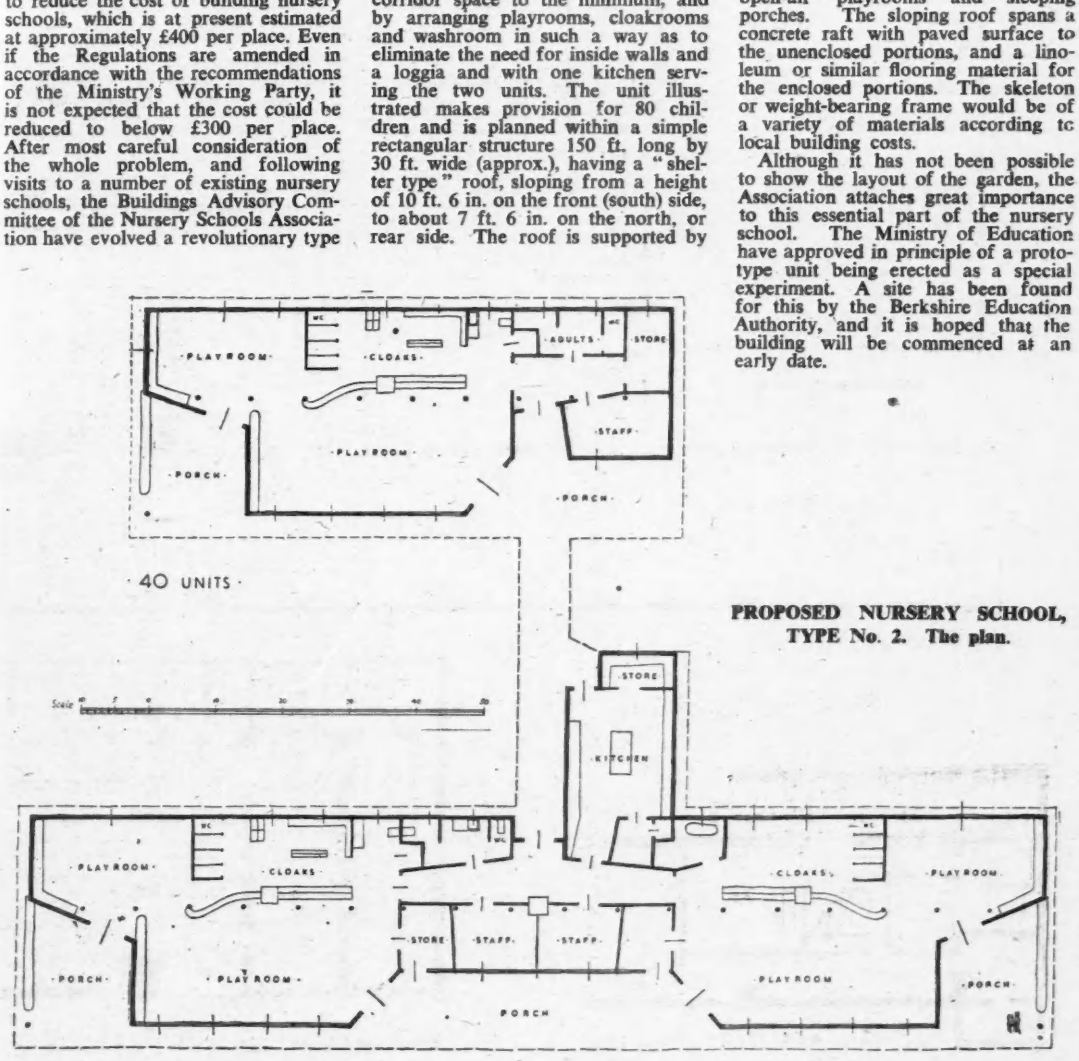


**The Perspective.**

meet this problem. When the Ministry of Education last year decided to re-examine their Building Regulations to see what detailed modifications, if any, were desirable, they invited the Nursery School Association to submit their observations on how to reduce the cost of building nursery schools, which is at present estimated at approximately £400 per place. Even if the Regulations are amended in accordance with the recommendations of the Ministry's Working Party, it is not expected that the cost could be reduced to below £300 per place. After most careful consideration of the whole problem, and following visits to a number of existing nursery schools, the Buildings Advisory Committee of the Nursery Schools Association have evolved a revolutionary type of building which, whilst reducing the cost per place to below £200, retains all the essential standards of space and educational requirements.

As can be seen from the photographs of the model reproduced, the reduction in cost is achieved by reducing corridor space to the minimum, and by arranging playrooms, cloakrooms and washroom in such a way as to eliminate the need for inside walls and a loggia and with one kitchen serving the two units. The unit illustrated makes provision for 80 children and is planned within a simple rectangular structure 150 ft. long by 30 ft. wide (approx.), having a "shelter type" roof, sloping from a height of 10 ft. 6 in. on the front (south) side, to about 7 ft. 6 in. on the north, or rear side. The roof is supported by a series of columns, spaced 8 ft. apart, running centrally the length of the building. Under this wide "canopy," wall and window panels are erected, forming the enclosed playrooms and administrative rooms, leaving some "sheltered" areas unenclosed for open-air playrooms and sleeping porches. The sloping roof spans a concrete raft with paved surface to the unenclosed portions, and a linoleum or similar flooring material for the enclosed portions. The skeleton or weight-bearing frame would be of a variety of materials according to local building costs.

Although it has not been possible to show the layout of the garden, the Association attaches great importance to this essential part of the nursery school. The Ministry of Education have approved in principle of a prototype unit being erected as a special experiment. A site has been found for this by the Berkshire Education Authority, and it is hoped that the building will be commenced at an early date.

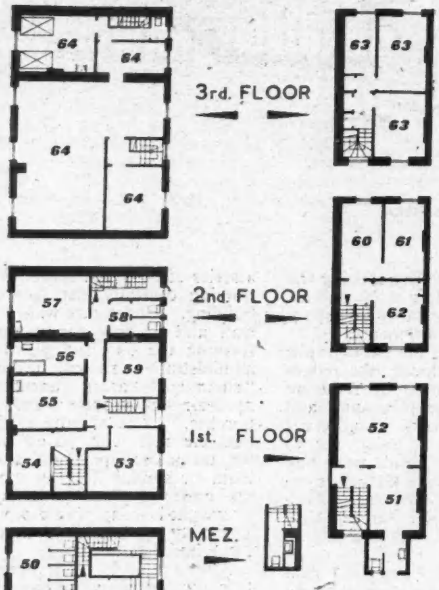



**PROPOSED NURSERY SCHOOL, TYPE No. 2. The plan.**

# THE "NUFFIELD CENTRE," ADELAIDE STREET, STRAND, W.C.2

## A Permanent Club for H.M. Forces below Commissioned Rank

### ARCON, ARCHITECTS FOR RECONSTRUCTION




KEY TO PLANS

**Ground Floor.**

1. Front hall.
2. Writing room.
3. Lounge.
4. Servery.
5. Cafeteria.
6. Dance hall.
7. Radiogram room.
8. Stage.
9. Artists' dressing rooms.
10. Servery.
11. Wash-up.
12. Beer stores.
13. Beer bar.
14. Information bureau and tel. exchange.
15. Telephones.
16. Porter's lodge.
17. Tours office.
18. Deputy comptroller.
19. Staff cloak room.
20. Area.
21. C.m.'s office.
22. Gas boiler.
23. Staff dining room and Green room.

**Front Basement.**

24. Cupboard.
25. Men's toilet.
26. Showers.
27. Barber's shop.
28. Tailor's shop.
29. Baggage room.
30. Gas meter and fan room.

**Back Basement.**

31. Stores.
32. Staff toilet (women).
33. Staff toilets (men).
34. Vegetable store.
35. Gas meter room.
36. Refrigerator.
37. Larder.
38. Vegetable and first preparation.
39. Kitchen.
40. Pastry room.
41. Staff mess room.
42. Women's staff locker room.
43. Transformer room.
44. Batteries and secondary lighting.
45. Switch room.
46. Lift motor.
47. Surplus furniture store.

**First Floor.**

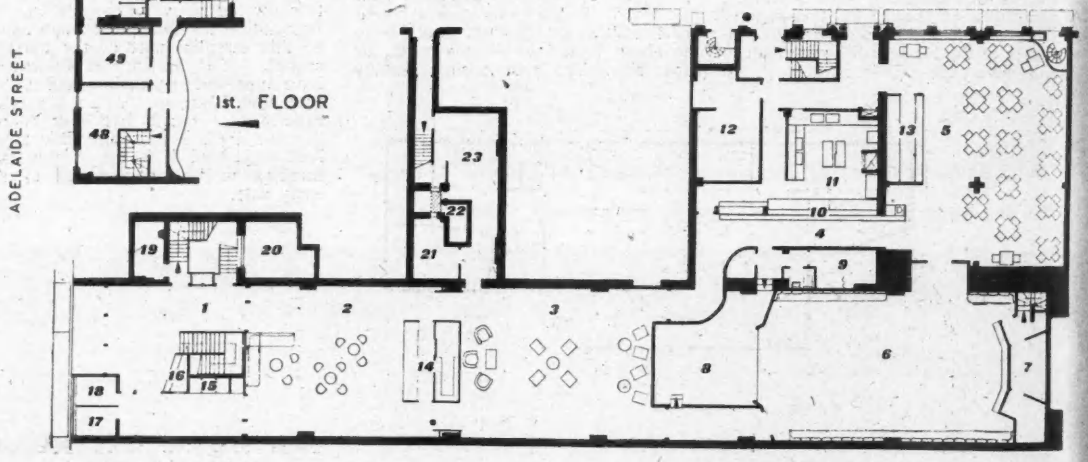
48. Rest room for women's services.
49. Toilet for women's services.
50. W.C. for women's services.
51. Entertainments.
52. Comptroller.

**Second Floor.**

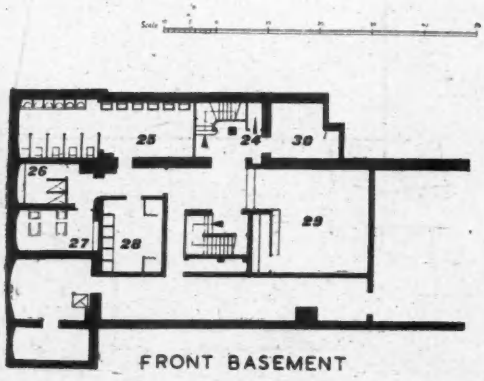
53. Housekeeper and linen room.
54. C.m.'s sitting room.
55. Night superintendent.
56. Staff bathroom.
57. C.m.'s bedroom.
58. Staff W.C.
59. Spare bedroom.
60. Accounts office.
61. Accountant.
62. Secretary.

**Third Floor.**

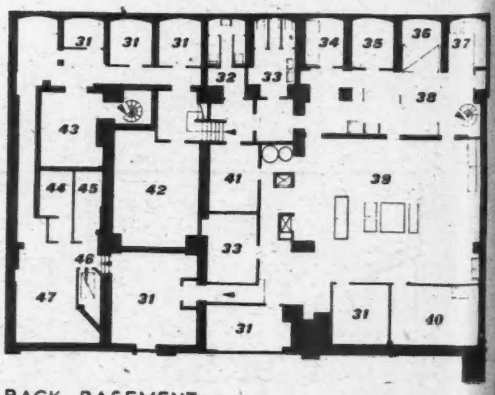
63. Spare rooms.
64. Repair workshops




GROUND FLOOR



FRONT BASEMENT



BACK BASEMENT

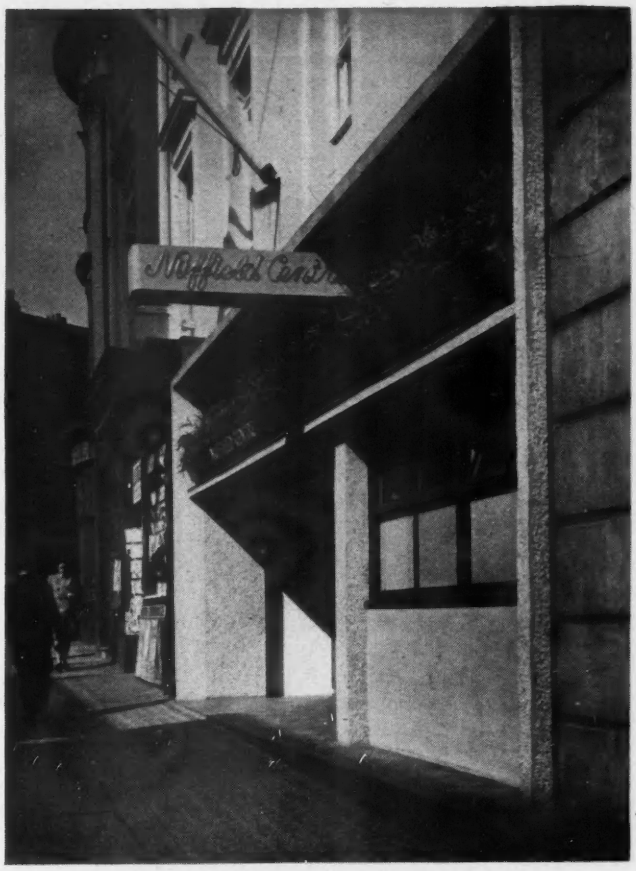
# "NUFFIELD CENTRE"

## ADELAIDE STREET, W.C.

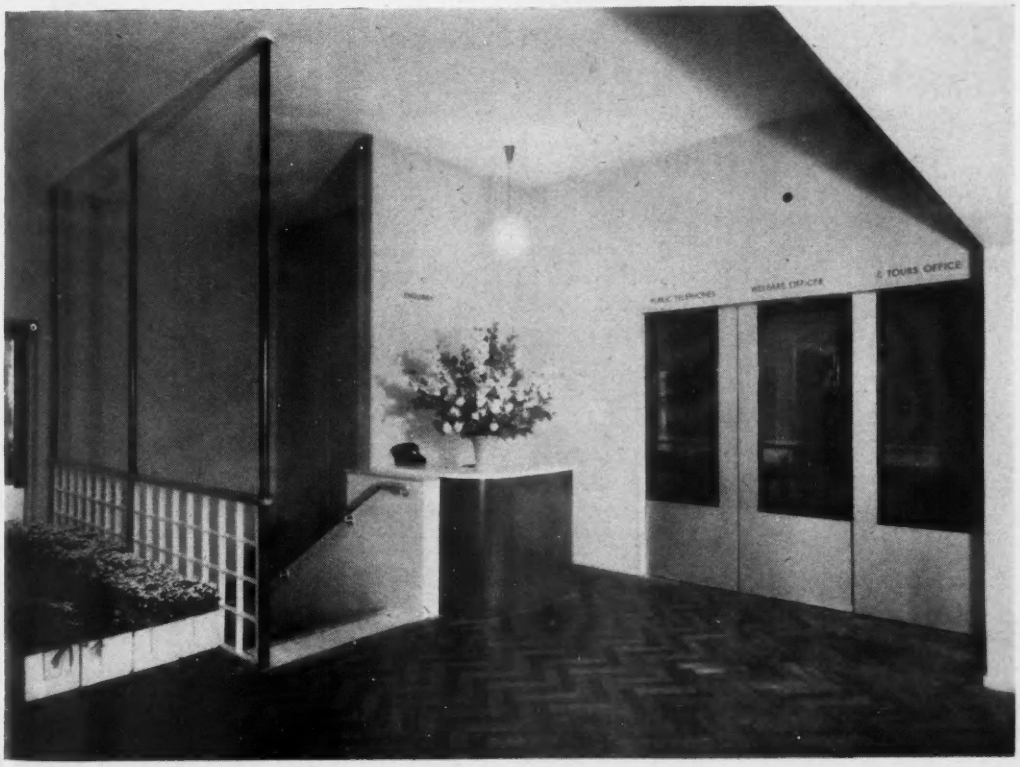
### ARCON, ARCHITECTS FOR RECONSTRUCTION

THE old Nuffield Centre proved to be one of the most popular Services' clubs in London, and more than 4¼ million Services personnel—both men and women—made use of its various amenities between 1943 and the closing date in January, 1948. This new Centre—situated in the old Gatti's Restaurant building—is to be a permanent club open to all serving members of the Home and Imperial forces below commissioned rank.

The main design problem involved in the creation of this new Centre was to provide administrative, recreational, catering, cloakroom and storage space within the framework of the existing Gatti's Restaurant. No sleeping accommodation for Services personnel

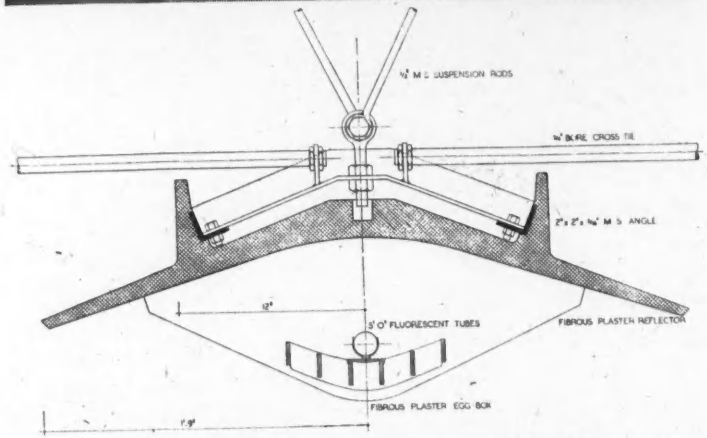


**Entrance from Adelaide-street.** *Below*: **The front hall.**



E*

View in the dance hall.




*Above*: **The lounge.** *Below*: **Detail of lighting battens.**

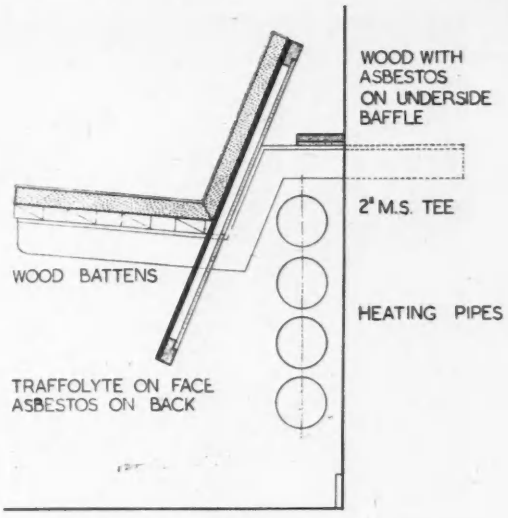
was required, but space had to be allocated for a small number of permanent and resident staff. Administrative offices and staff rooms were, as far as possible, planned vertically in two small wings off the main Gatti's building and on four floors, with a separate staircase.

The ground floor of the building containing the recreation rooms and cafeteria was designed, within certain limits, as a continuous circulation with the two-way stage as a focal point, and with the information desk and telephone exchange clearly visible from the entrance. The main requirements for recreational and catering purposes were:—

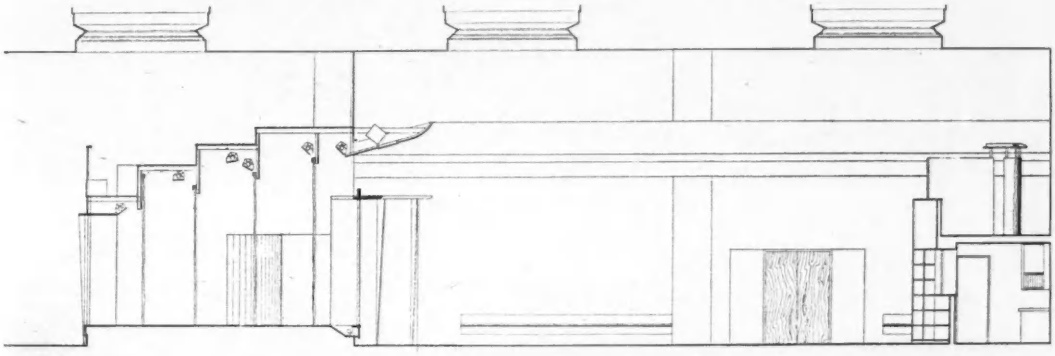
1. A cafeteria to accommodate 100 people, with a kitchen and servery capable of handling up to 2,000 meals in one day. Meals are served continuously from mid-day, which is the official opening hour, until 10.30 p.m.
2. A beer bar.
3. A writing room.
4. A main lounge. The Women's Services are also provided with a separate rest room on the first floor.
5. Dance hall capable of accommodating about 200 couples with a stage, for the band and cabaret entertainments, equipped with the most up-to-date lighting.

The main work of food preparation is carried out in the basement kitchen, and there is a food-lift direct to the servery. The basement under the cafeteria also contains food, glass, china and furniture storages, a refrigeration room, transformer and meter rooms, and rooms for kitchen staff. From the main entrance hall off Adelaide-street, a staircase leads down to the utility section of the building. There are men's cloakrooms and showers, a barber's shop and a tailor's shop, where repairs can be done and uniforms can be pressed on the spot. There is also a baggage store with a lock-up for men leaving personal luggage while on long leave or on over-night visits to London. A separate return staircase leads back from the basement into the main hall. In this hall the Deputy Comptroller's office is situated. There is also a tours office from which visits are organised to places of interest in and around London. In a corner of the hall and off the main circulation are situated the telephone call-boxes.

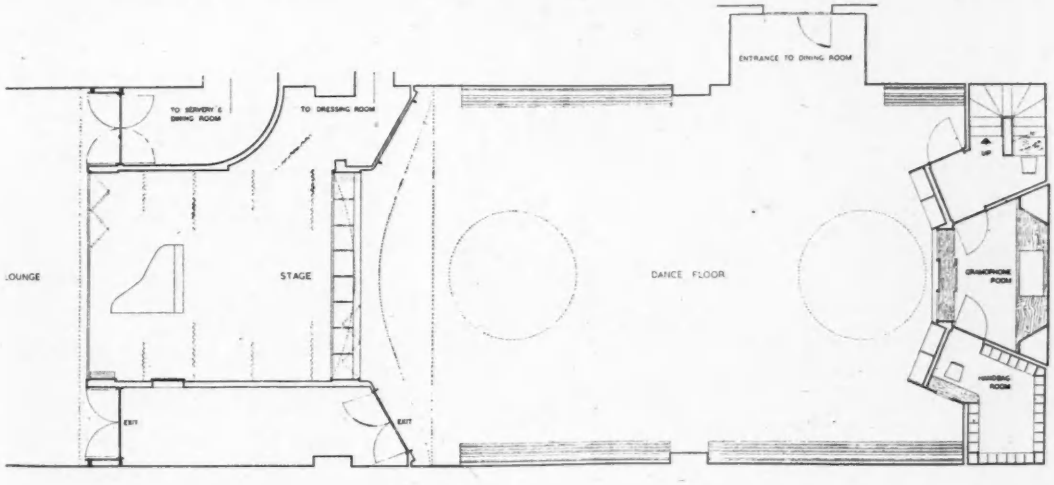
The rich decoration of the famous old Gatti's



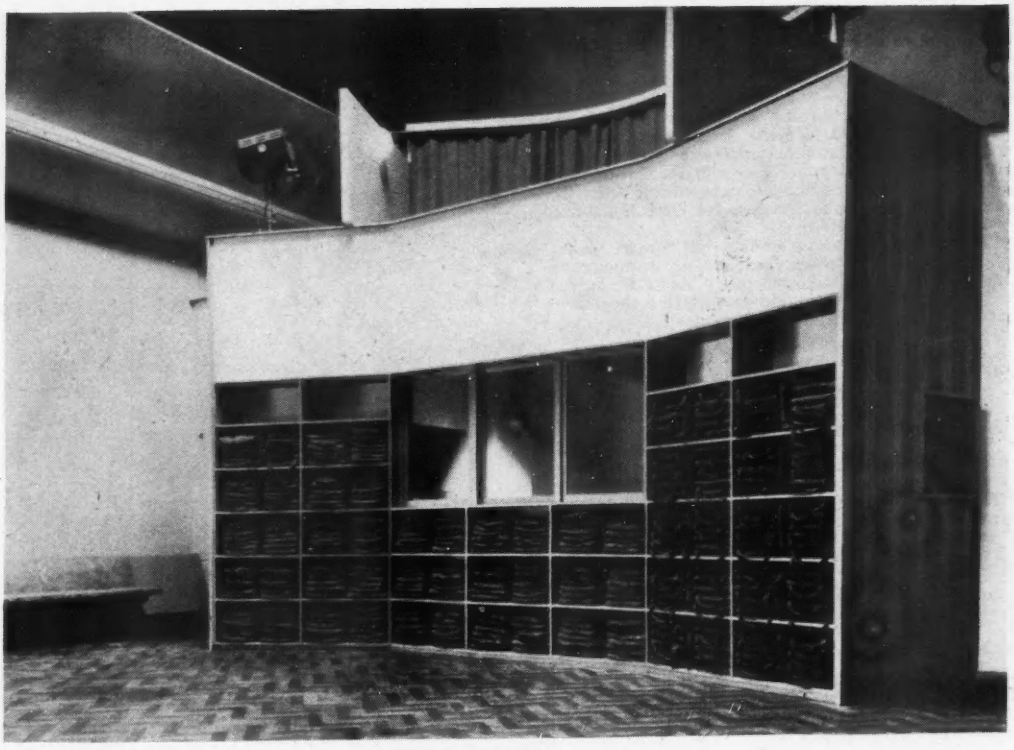

DETAIL OF SEAT & HEATING PIPES



SECTION THROUGH DANCE FLOOR AND STAGE



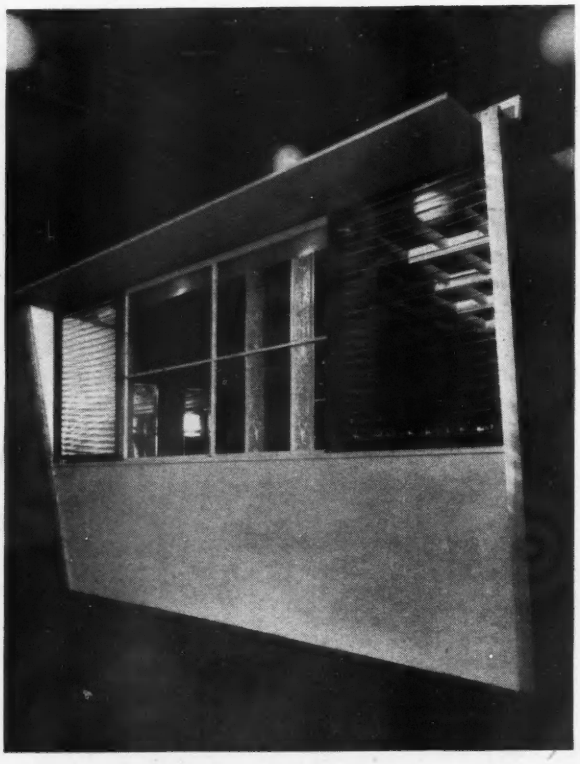

PLAN OF DANCE FLOOR AND STAGE



The seat store, dance room.

## "NUFFIELD CENTRE," STRAND, W.C.

### ARCON, ARCHITECTS FOR RECONSTRUCTION



The lock-up beer bar in cafeteria.

Restaurant, including the gold-painted ceiling, has been retained in the cafeteria. Elsewhere on the ground floor it has been used as a background to the contemporary architectural pattern of the new work involved in the conversion. The detail of the old walls and ceilings has been unified by an over-all paint treatment in a light shade of blue-grey. This contrasts with the polished natural wood, the flower-boxes and the bright colours of the new work.

A number of experimental designs were incorporated into the lighting of the building and in the fitments. The continuous reflector type fluorescent lighting for the lounge and writing-room, the kiosk-type lock-up beer bar in the cafeteria and the treatment of the two-way stage, are examples of the fresh approach to interior design required by flexible planning within a very restricted site.

The general contractors were Messrs. Wates, Ltd., of Streatham, S.W. Sub-contractors and suppliers were: Electrical installation, T. Clarke and Co. Ltd.; service lifts and hoists, Newbury and Thomas, Ltd.; heating and ventilation, Norris Warming Co., Ltd.; kitchen equipment and ventilation, Benham and Sons, Ltd.; plumbing and sanitation, Stanley Topping; iron staircases, F. A. Norris and Co., Ltd.; specialist furnishings, Maple and Co., Ltd.; ironmongery, Nettlefold and Sons, Ltd.; painting, South London Decorators, Ltd.; plastering, Southern Counties Plastering Contractors, Ltd.; stage equipment, Strand Electric and Engineering Co., Ltd.; sanitary fittings, John Bolding and Sons, Ltd.; glazing, Leary Glazing Service; pavement lights, Lenscrete, Ltd.; terrazzo, Art Pavements and Decorations, Ltd.; "Aluminex" glazing, Williams and Williams, Ltd.; floor tiling, Carter and Co. (London), Ltd.; linoleum, E. and A. Wates, Ltd.

View from South-East. *Below*: View from South-West.

# NEEDWOOD HOUSE, WOODBERRY DOWN ESTATE

C. H. WALKER, O.B.E., L.R.I.B.A., L.C.C. DIRECTOR OF HOUSING AND VALUER
S. HOWARD, L.R.I.B.A., L.C.C. HOUSING ARCHITECT

| BLOCK NO: | | BLOCK NO: | | BLOCK NO: | |
|---|---|---|---|---|---|
| 1 | WHITTLEBURY HOUSE | 17 | SAVERNAKE HOUSE | 35 | |
| 2 | CHARNWOOD HOUSE | 18 | CANNOCK HOUSE | 36 | |
| 3 | WYCHWOOD HOUSE | 19 | PICKERING HOUSE | 37 | |
| 4 | DEAN HOUSE | 20 | PEWSHAM HOUSE | 38 | |
| 5 | OMBERSLEY HOUSE | 21 | PETHERTON HOUSE | 39 | |
| 6 | BRAYDON HOUSE | 22 | PEAK HOUSE | 40 | |
| 7 | BEWDLEY HOUSE | 23 | NICHOLL HOUSE | 41 | |
| 8 | HAVERING HOUSE | 24 | NEEDWOOD HOUSE | 42 | |
| 9 | WYERSDALE HOUSE | 27 | LONSDALE HOUSE | 43 | |
| 10 | WEYBRIDGE HOUSE | 28 | LEIGHFIELD HOUSE | 44 | |
| 11 | WENSLEYDALE HOUSE | 29 | KNARESBOROUGH HOUSE | 45 | |
| 12 | WEARDALE HOUSE | 30 | KILPECK HOUSE | 46 | |
| 13 | TOXTETH HOUSE | 31 | KEYNSHAM HOUSE | 47 | |
| 14 | GROVELEY HOUSE | 32 | FINMERE HOUSE | 48 | |
| 15 | SHERWOOD HOUSE | 33 | | 49 | DOVEDALE HOUSE |
| 16 | HORSTON HOUSE | 34 | | | |

AREA OF SITE, INCLUDING ONE HALF ADJOINING ROADS, ABOUT 44·75 ACRES

NUMBER OF DWELLINGS . . . 1764
NUMBER OF ROOMS . . . . 5703
DWELLINGS PER ACRE . . . . 39·7
ROOMS PER ACRE . . . . . 143·6
HEIGHT OF BUILDINGS – 2, 3, 5 & 8 STOREYS

BLOCKS ERECTED
BLOCKS UNDER CONSTRUCTION
BLOCKS PROPOSED

**The layout.**

NEEDWOOD House, on Woodberry Down Estate, Stoke Newington, North London, is the first eight-storey block of flats to be erected by the London County Council, and it was formally opened by Mr. John Edwards, O.B.E., M.P., Parliamentary Secretary to the Board of Trade, on February 17.

The L.C.C. first decided to acquire the Woodberry Down Estate site in February, 1936. It is roughly triangular and slopes gently from north to south. It is bounded on two sides by the New River, beyond which to the south lie two reservoirs separated by the Lordship-road causeway. This southern frontage is a valuable natural amenity, and full advantage has been taken of it by preserving the river bank as a promenade for the use of the tenants. The site was originally well wooded, as its name implies, and in preparing the layout every endeavour has been made to preserve as many of the trees as possible. Additional planting will be carried out wherever necessary, and the forecourts will be laid out with shrubberies edged with flower beds and lawns.

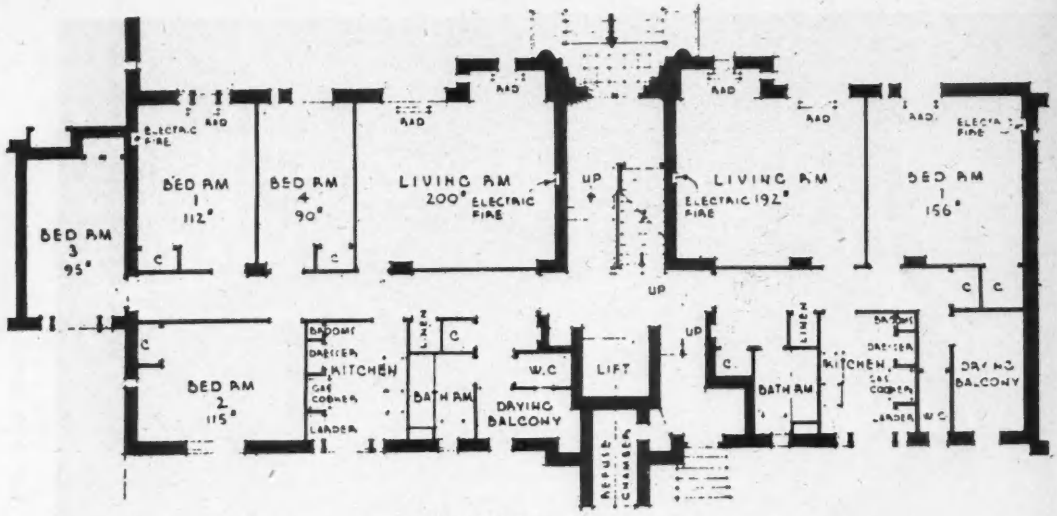
The Woodberry Down Estate scheme as it now stands will provide accommodation for 1,765 families, or about 6,350 persons, in eight- and five-storey blocks of flats, three-storey blocks with maisonettes on ground and first floors, two-storey blocks of flats mainly intended for old people, and two-storey houses.

A generous reservation of 11.15 acres has been made to accommodate the schools, health centre and other important services which will eventually be built on the Estate.

Work began on the site in August, 1946, and at the end of January, 1949, 220 flats had been completed. The Council's contractors are Messrs. Walter Lawrence and Sons, Ltd. (420 flats in eleven five-storey blocks), Messrs. Holland & Hannen and Cubitts, Ltd. (320 flats in four eight-storey blocks), and Tersons, Ltd. (280 flats in eight five-storey blocks).

Detail, showing balconies.

View from South.




**A typical floor plan.**

Needwood House is one of four eight-storey blocks being erected on the estate. These blocks, formerly designed as steel-framed brick-faced buildings, are now being erected in monolithic concrete, a form of construction which is a relatively new departure as far as the Council's housing schemes are concerned, but one in which Messrs. Holland & Hannen and Cubitts, Ltd., have had considerable experience. In this particular example, the external walls and internal piers and beams form the load-bearing structure.

The block has been sited on a north-south alignment. Access to the flats is by lifts (of which five are provided) opposite the staircases. On the upper three floors the staircases open on to balconies. The living rooms and the majority of the bedrooms face the forecourt, while the kitchens, domestic offices and remaining bedrooms lie along the back of the block overlooking the courtyard.

The accommodation provided in the block is as follows:—

| *Size** | *No of flats* | *Average floor area* | *Estimated rents†* |
|---|---|---|---|
| | | *sq. ft.* | *s. d.* | *s. d.* |
| 2-room flat .. | 7 | 490 | 21 | 6 to 22 | 0 |
| 3 „ „ .. | 41 | 645 | 25 | 6 to 26 | 6 |
| 4 „ „ .. | 28 | 780 | 29 | 3 to 30 | 3 |
| 5 „ „ .. | 4 | 889 | 33 | 6 to 33 | 9 |

* No. of rooms excludes separate kitchen, bathroom and water closet.

† Including rates but excluding central heating and hot water charges.

The block is centrally heated by a hot-water system which also supplies hot water for domestic use, the installation being fed from a sunken boiler house in the courtyard. Radiators are installed in the living room and in the largest bedroom; in addition, an electric fire with terrazzo surround and shelf is provided in the living room and an electric fire in the first bedroom. All rooms are fitted with electric power points. The kitchens have been carefully planned and are fitted for a gas or electric cooker. A larder, dresser, broom cupboard, sink and draining board are also provided. The concrete floors are surfaced throughout in composition flooring.

Built-in cupboards are provided in the bedrooms. Private sun balconies adjoin the living rooms. Refuse disposal is by means of dust chutes with internal hoppers. Cycle and perambulator storage is provided.

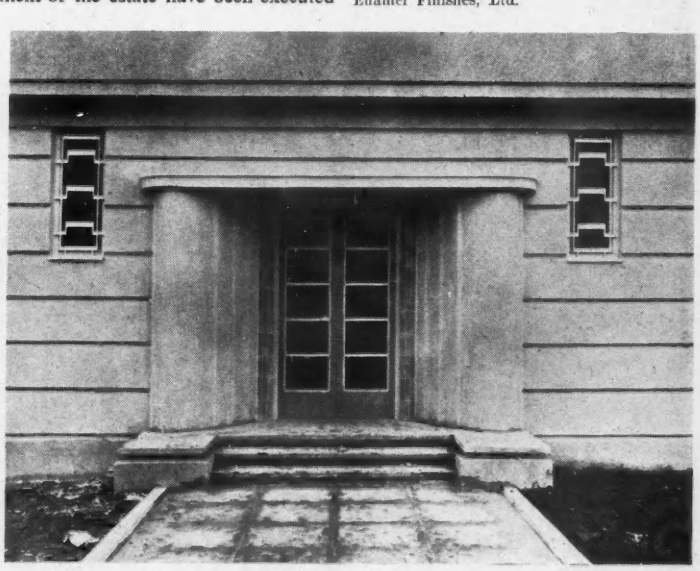
Internal decorations are in light pastel shades, and external paintwork is in cream and light blue.

The detailed design of the eight-storey blocks and the building development of the estate have been executed under the direction of the Director of Housing and Valuer, Mr. C. H. Walker, O.B.E., M.C., F.R.I.C.S., M.I.Mun.E., L.R.I.B.A., based on the layout and type plans prepared under the supervision of the Council's former Architect, Mr. J. H. Forshaw, M.C., F.R.I.B.A. The Housing Architect, Mr. S. Howard, L.R.I.B.A., is directly in charge of the work.

The main contractors for Needwood House were Messrs. Holland & Hannen and Cubitts, Ltd., and the principal sub-contractors were:—

Asphalt, The Excel Asphalte Co., Ltd.; electrical installations, Engineering Service Installations, Ltd.; glass and glazing, Aygee, Ltd.; lifts, Express S.M.S. Lifts; sanitation, Matthew Hall and Co., Ltd.; scaffolding, Scaffolding (Great Britain), Ltd.; jointless flooring, Bruce Martyn, Ltd.; painting and decorating, South London Decorators, Ltd.; plastering, John Harmer and Fuller, Ltd.; joinery, Rippers, Ltd.; metal windows, The Crittall Manufacturing Co., Ltd.; sand and shingle, Willment Bros; constructional wrought-iron work, Clark, Hunt and Co, Ltd.; and "Glazement" cement-glaze finish to staircase walls and soffits, Robb's Cement-Enamel Finishes, Ltd.

## NEEDWOOD HOUSE, WOODBERRY DOWN ESTATE, STOKE NEWINGTON, FOR THE LONDON COUNTY COUNCIL



**Detail of an entrance.**

# SHOPPING CENTRE FOR CARS

## New American Venture

**[From a Correspondent]**

THE construction of America's first motor car shopping centre, at which patrons can make all their purchases while sitting in their vehicles, is to start in Chicago this spring, it has been announced in the U.S.A. It will be situated in Lincoln-avenue, on Chicago's north side. Among special features of auto-shopping intended to appeal to motorists, will be pick-up windows for packages, sales windows for purchases directly from the car, drive-in facilities for making telephone calls and sending telegrams, "carry-out" dinners prepared by the Centre's restaurant and accompanied by a heated ceramic disc to keep food hot on the homeward trip, and other automatic selling devices which are calculated to save time and add to convenience.

The building, to be known as the Lincoln Road Shopping Centre, will extend more than 1,000 ft. and will be constructed with two levels. A truckway within and across the front of the building at the lower level will permit out-of-sight handling of merchandise free of traffic interference with customers' cars. An open sunk motor car lane through which shoppers may drive to make purchases at special auto-shopping service windows will also be provided at the lower level along the entire far side of the buildings.

A projecting canopy along the frontage of each building will shelter pedestrian shoppers from inclement weather, and heated sidewalks will melt snow as fast as it falls.

A typical shopper may drive in and, without getting out of her car, cash a cheque at the currency exchange, leave a pair of shoes to be reheeled, and a prescription at the chemist. She may then park her car conveniently near by in order to choose a scarf at the appropriate shop and do anything else that demands other than a mere order or quick selection. She may then select at the supermarket all of the purchases for the weekend and have them conveyed to a pick-up window on the lower level. Upon returning to her car, she drives through the auto-shopping lanes, picks up the shoes she left to be reheeled, perhaps buys a quart of ice-cream and has her purchases at the super-market loaded directly into her car.

The shopper who wants only to buy items that do not require prolonged selection need only drive through the auto-shopping lanes to the proper windows, order and receive the articles she wants, and drive on.

The architect for the Centre is Mr. Howard T. Fisher, whose organisation has developed the idea after over two years' study and research.

# CORRESPONDENCE

*[Whilst we are glad to publish letters on professional and other matters of interest to our readers, it must be understood that we do not necessarily endorse the remarks of correspondents, who will oblige us if they will express their views as briefly as possible.]*

### Chimney Stack: Cracking.

TO THE EDITOR OF *The Builder*.

Sir,—I was particularly interested in the question raised by "K. S. B." in your last issue, and your reply with which I entirely agree, as far as it goes. In my experience, about 90 per cent. of boiler flues are affected in the same way, and in addition to your theory as to the cause, I have thought for some years that a contributory cause is the occurrence of minor explosions in the boiler and flue, due to an explosive gas being given off by the fuel, which is ignited when a damper is opened or the fire stirred, or by flame suddenly getting through the body of the fire to the gas above. With my own boiler I have had the fire doors blown open on many occasions and can think of no other cause than I have stated.

During the blitz period when my company were carrying out first-aid repairs for a Surrey Urban District Council, I found that on many occasions people with cracked chimneys were claiming for their repair as due to war damage, and in scores of cases the boiler flue was the only chimney on the house that was damaged; it would be curious if the bomb singled out for damage only boiler flues (irrespective of their position in relation to the bomb).

The staining of internal plaster adjacent to a boiler flue is due to the tarry products of combustion from the fuel one now has to use, and this staining, short of the method you have advocated of using brick lining to the flue, appears to be impossible to avoid.

A. OSMAN, M.I.O.B.

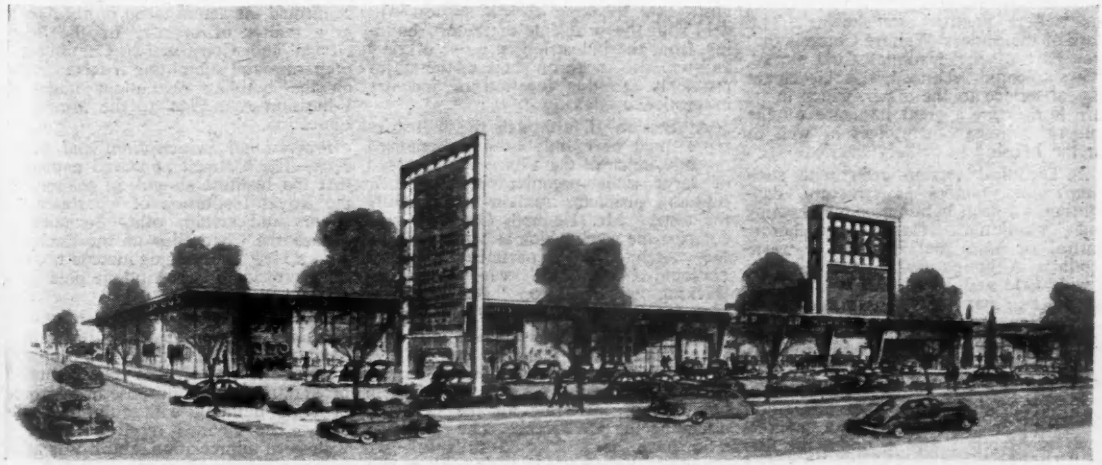
Oxshott, Surrey.

# CIVIC STATUARY

## Birmingham Recommendations

THE recently published annual report of the Birmingham Civic Society contains a copy of the report on city statuary which was submitted to the Lord Mayor of Birmingham in April last, and was forwarded by him to the Public Works Department, who now have the matter under consideration. This report, prepared by a special committee, stated that it was apparent from the present condition of the statuary that the atmosphere of the city was injurious to white marble. The last figure to be erected, "King Edward," was crumbling; that of "Queen Victoria" had lost parts of the royal regalia by corrosion or wilful damage, and the "Priestley" was showing damage to one hand and portions of the head. Future commemorative sculpture in this city should, therefore, be executed in more durable material. Although it was possible to restore parts of marble statuary which had broken away, such repairs could never be properly matched with the original for colour, and such patching became more conspicuous with time. Neither could surface erosion be made good, nor the wilful discoloration of the statues in Victoria-square be removed. It was therefore advised that the broken parts of figures to be retained should be repaired in plaster, so that the completed figures might serve as models from which to cast replicas in bronze, and that statues of bronze in cities like Birmingham should receive an occasional chemical wash to keep them clean, and to produce—as nearly as possible—a patina such as would come naturally but for the sooty content of the atmosphere.

The Society pointed out that the removal of some of the present statuary had been recommended in a report of the Birmingham Civic Society to the Public Works Department in 1937, and since then the central area of the city had been replanned in such a manner that most of these figures would eventually be displaced. Those statues which were to go eventually should be removed at once, since they discredited both the city's reputation and that of the men they were intended to honour. The Society recommended the removal of the statues of Mason, Dawson and Wright, and that the statue of King Edward should be transferred from Victoria-square to a suitable site elsewhere.



**THE LINCOLN ROAD SHOPPING CENTRE FOR CARS. Howard T. Fisher, Architect.** *(See above.)*

# INDUSTRIAL ARCHITECTURE

## Conference and Exhibition at R.I.B.A.

AN Exhibition of Industrial Architecture will be open to the public at 66, Portland-place, W.1, from March 3 to 26 inclusive (weekdays 10 a.m. to 7 p.m., Saturdays, 10 a.m. to 5 p.m.).

The Exhibition has been organised by the Royal Institute of British Architects to show what British architects and managements can achieve together in spite of the general shortage of materials. By means of photographs, models, plans and perspectives, it illustrates factories from different industries and of different sizes, from the little factory on the trading estate to the huge plant employing thousands of workers. The buildings shown, with their canteens and other welfare facilities, will also illustrate the new spirit of co-operation between management and worker.

**Essentials of Co-ordination.**

The Exhibition begins by stressing the essentials of co-ordination between the industrialist, the architect, the engineer, the contractors and the various specialists, as well as the Ministries and local authority departments concerned. The next section shows that landscape is becoming a basic study in the siting of industrial undertakings, how simple layouts enhance well-designed buildings, the health-giving value of gardens adjoining canteens, and the work of landscape restoration which is to-day being applied to the extractive industries, while the factors affecting selection and planning of the site are analysed diagrammatically.

The main section of the Exhibition illustrates examples of factories and their ancillary buildings, including administration, which may or may not form part of the main building.

These have mostly been built since the war, or are in process of building. This section gives a survey of the present position in factory planning and construction.

The Welfare section emphasises that the primary object of industrial welfare must be the creation of the best possible working environment. Canteens, clinics and recreational facilities are all essential but they must not be regarded as a substitute for bad conditions in the factory, although they are essential ingredients of good industrial planning. A wide range of buildings providing fine recreational and welfare facilities are shown. The work of the Miners' Welfare Commission, now part of the National Coal Board, shows splendid architectural achievement of real service to the miner, which in its turn is exerting a great influence on the colliery buildings themselves as well as on the housing in colliery districts.

A Technical section deals with such inter-related factors as structure, daylighting, artificial lighting, colour, heating and ventilation, thermal insulation, control of noise and removal of waste products. Although small in size, it covers a wide field and contrasts good and bad examples in many of its subsections.

The Exhibition also includes a short historical survey.

**Conference on Industrial Building.**

In connection with the Exhibition the R.I.B.A. has arranged a conference on March 3 and 4, under the title of "The Architect in Industry," so that industrialists may have an opportunity of discussing with architects the problems of factory planning and construction. At no time in the industrial development of the country has the provision of good factory building been of greater importance, and the part which adequate and well-planned factory accommodation can play in increased productivity is beginning to be universally recognised.

The first day is devoted to a discussion of the general problems of factory building and planning which concern both the private and the nationalised industries, while on the second day opportunity is given for the more detailed study of some of the technical aspects. The programme is as follows :—

THURSDAY, MARCH 3.

*Session I.* 10.30 a.m. "Large and Small Scale Industry under Private Enterprise." Speakers : Anthony M. Chitty, F.R.I.B.A., M.T.P.I., Lord Forrester, M.A., Managing Director, Enfield Cables Ltd., C. S. White, F.R.I.B.A., and Paul Cadbury, C.B.E., Director, Cadbury Bros. Ltd.

*Session II.* 2.30 p.m. Nationalised Industries. Speakers ; Sir John Hacking, M.I.E.E., Deputy Chairman (Operations), British Electricity Authority, and Kenneth Campbell, A.R.I.B.A., Architects' Department, National Coal Board.

FRIDAY, MARCH 4.

*Session III.* 10.30 a.m. Technical Groups. (i) Structural Techniques. Speakers : Edward D. Mills, F.R.I.B.A., W. S. Atkins, B.Sc., A.M.I.C.E., and A. G. Sutton, M.A.

(ii) Heating and Ventilating. Speakers: Thomas Bedford, D.Sc., Ph.D., and L. Copeland Watts, M.I.Mech.E.

(iii) Natural and Artificial Lighting. Speakers : W. A. Allen, B.Arch., A.R.I.B.A., and R. O. Ackerley, F.I.E.S.

(iv) Various Factors affecting working conditions. Speakers: H. G. Maule and Dr. N. Davis, M.A., Ph.D.

*Session IV.* 2.30 p.m. Reports from the Technical Groups and discussion on the more interesting points. Chairman : Michael Waterhouse, President, R.I.B.A.

After the reports from the technical groups Sir Percy Thomas, O.B.E., M.T.P.I., Past President R.I.B.A., will sum up the conference, which will close with tea at 4 p.m.

At Session I the architects speaking will give details of many recently constructed factory buildings and will illustrate those buildings by means of slides. The industrialists speaking at this session will deal with the problems of factory building from the industrialists' point of view and will also touch on some of the major problems affecting location of industry in particular areas.

At Session II, although the industries represented have only been nationalised recently, some of them have a long record of large scale organisation, and their building problems remain substantially the same. Mr. Kenneth Campbell will describe the work which is being done by the Architect's Department of the National Coal Board, while Sir John Hacking will speak on "Positive Planning for Power."

The division of Session III into four groups has been made so as to give greater opportunity for the discussion and exchange of views than there could be in any session including all the delegates attending the Conference. The specialists who have been selected to speak are known to be experts in their subject, and delegates will have an opportunity of getting information on the latest developments.

In Session IV, when the Conference will meet again as a whole, the short reports given by each of the groups who have met in the morning will enable delegates to get a more complete picture. Opportunity will also be given at this session for general questions on matters which have been raised in earlier parts of the Conference.

In selecting the subjects for the Conference, and in its general arangement, the Royal Institute has been advised by the Federation of British Industries and the Trades Union Congress.

In addition to representatives from over 200 large private firms, the conference will be attended by delegates from ministries and other public bodies and corporations.

# R.I.B.A.

## Notes from Council Minutes

FOLLOWING are notes from the minutes of the R.I.B.A. Council meeting held on February 8th:—

APPOINTMENTS. (a) British National Committee, International Union of Architects: Mr. Kenneth J. Lindy (F), in place of Mr. Frederick Gibberd (F); (b) R.I.B.A. Representative on Court of Governors of Nottingham University: Mr. R. E. M. Coombes (F); and (c) R.I.B.A. Architecture Bronze Medal, Essex, Cambridge and Hertfordshire Society of Architects: R.I.B.A. Representative on Jury: Mr. A. W. Kenyon (Vice-President); (d) British National Committee on Building Documentation: Additional R.I.B.A. Representative: Mr. Denzil Nield (A); and (e) M.o.W. Committee on Economy in the Use of Steel: R.I.B.A. Representative: Mr. Mark Hartland Thomas (F).

*Simplification in Licensing Procedure, etc.*—The President reported that the representations made through the National Consultative Council of the Building and Civil Engineering Industries had been considered by the Ministry of Works and also by the Treasury. The latter had agreed to take up the matter of standardisation of forms with local authority associations. In regard to simplification of procedure for licensing, the Council felt that further examination was needed, and referred the matter to the Practice Committee for study.

*M. of E. Working Party on Building Regulations.*—The Council approved and confirmed the action taken on their behalf as a matter of urgency by the School Design and Construction Committee in preparing and submitting a memorandum on the building regulations under the Education Act, 1944, to the Ministry of Education.

*Professional Subscriptions and Income Tax.*—The Council approved a proposal that the Institute should, in concert with the Royal Institution of Chartered Surveyors and certain other Societies, approach the Chancellor of the Exchequer with a view to obtaining income tax relief on professional subscriptions paid by all salaried architects.

*Arts in Relation to Architecture.*—The Secretary reported that the Hertfordshire County Council had allotted a proportion of the costs of their new schools building programme for the purpose of adornment of school buildings with sculpture, murals, etc. The Council received this report with keen appreciation, and it was agreed to express the Institute's satisfaction at this enlightened step.

*Cubic Content of Buildings.*—At the suggestion of the Chairman of the Central Land Board, a joint committee of the Institute and the Royal Institution of Chartered Surveyors have drawn up a memorandum on methods of measuring the cubic content of buildings for purposes connected with the Town and Country Planning Act, 1947. The method evolved is purely for purposes connected with development values, and is not related to the traditional system of cubing for costing purposes. The memorandum, which had been approved by the Council of the R.I.C.S., was approved for submission to the Central Land Board with a view to publication by them for general guidance.

*Junior Organisation.*—The Council considered the report of the Junior Organisation Committee on the result of their discussions with representatives of the Architectural Students' Association in regard to proposals to promote closer contact between the Royal Institute and the general body of students. After detailed examination, the Council referred the report back to the Committee for further consideration, it being their view that any link between the Royal Institute and the students should leave the latter with the greatest possible freedom.

*Maximum Selling Price of New Houses.*—The Council approved a recommendation of the Practice Committee that representations be made to the Ministry of Health with a view to securing the exclusion of the architect's fee from the maximum selling price of a new house.

*Supply of Drawing Office Materials.*—It was agreed to make representations to the Board of Trade with a view to securing some improvement in the available quantity and quality of drawing office materials.

*Defence Regulation 56A.*—It was agreed to make representations jointly with A.R.C.U.K. to the Minister of Works with the following objects:—

1. That Regulation 56A should be amended so that paragraphs 6 and 8 would provide, in addition to the present defence, that it shall be a defence for any person charged with an offence to prove that he did not, in fact, know of or suspect the breach, and could not by the exercise of reasonable diligence have so known or suspected or prevented such breach.

2. That the time of instituting proceedings should be reckoned from such a date as would enable the case to be heard by a court of summary jurisdiction, and thus avoid the person charged appearing in the dock.

## BRICK LEVY ABOLISHED

THE Brick Charges Revocation Order, 1949, which comes into force on February 28, abolishes from October 1, 1948, the levy first imposed in May, 1942, on all building bricks sold. The levy was originally established on the advice of the Simmonds Committee to provide money for the care and maintenance of brickworks closed under the concentration of industry schemes.

The levy amounted to 6d. per 1,000 bricks, and it is anticipated that one result of the Order should be a reduction in the current price of a similar amount. It is understood that, after full claims for maintenance of brickworks have been met, a sum of the order of £100,000 will be left. The purpose to which this residue will be put is not yet known, but clearly it is money which belongs to the industry and should be put to a beneficial object, e.g. research. We shall look forward to an official pronouncement.

# COLOUR IN BUILDINGS

## A Scale for Use in Schools

COLOUR is, perhaps, the most important single factor in determining the character of a building, said MR. D. L. MEDD, A.R.I.B.A., of the Schools Group of the Architect's Department of the Hertfordshire County Council, when speaking at the course on "Colour and Lighting in Factories and on Machines," held at the R.I.B.A. recently. Following is a report of his address on "The Application of Colour in Buildings, with special reference to primary schools in Hertfordshire":—

Before discussing colour in particular, I should like to say a few words about my Department's general attitude to the technical problems of building in order to emphasise how we have tried to bring a consistent approach to bear on every aspect of the work. We believe that technical progress lies in standardisation for production to give flexibility in application. Moreover, the wider the application, the greater will be the resulting economy. We believe that the architect should be the co-ordinator of a design team working with this approach to standardisation. He can thus ensure that the methods and components that result shall be applicable to many different conditions, and that they shall be the means of establishing a contemporary architecture rather than mere expedients to meet a particular situation.

I hope to show that what I have said can bear some relationship to colour. We felt our first need was the establishment of a colour scale, the counterpart of the composer's piano, without which he could not compose the simplest tune. After all, the architect relies on a scale for his working drawings and numerous other measuring devices, but the tools he has for colour are as unhelpful as a piano scale with half the notes missing. Manufacturers' standards are necessarily based on sale, and consequently are scientifically and æsthetically arbitrary. Several official bodies publish standard colours for their own purposes which only serve to add to the confusion. Architects are probably the most difficult consumers of paint to satisfy, but their demands are small. This might make it possible for some authoritative body to establish a standard comprehensive scale. This would serve as a national master scale to which all other selective standards could refer. It would make standard symbolical colour referencing possible, and would end the confusing and overlapping terminology which now exists. The scale should probably be established in flat matt surfaces in order to avoid confusion with shine, shadow and texture—factors that affect apparent colour, but are independent of actual colour.

We decided to adopt the principles behind Dr. Ostwald's colour scale, which has the disadvantage of being non-extendable, but is therefore easier to comprehend. More fully saturated hues than the present standards shown will rarely be met in practice. The Ostwald standards indicate too distant steps in the orange and red regions and too close steps in the turquoise regions. The method of achieving each colour by predetermined proportions of black, white and full colour constituents is not practical at the present time.

Manufacturers should be free to mix each colour in the most economical way to give the highest possible degree of fastness. The steps or intervals between each colour—hue tint and tone—are based on measurements of sensation, and not the physical causes of those sensations. The scale is comprehensive and is expressed in a simple regular geometric solid. As a result the relationships between all colours are easily explained and demonstrated.

The size of the colour scale depends on the chosen number of steps on the achromatic scale. For instance, five steps give 245 colours. This sounds alarming, but a careful selection of fully saturated basic hues, with intermixability with black and white, will give this comprehensive scale. The selection is based on the semi-chrome theory and depends on the absorption band of one hue not being extended by that of another hue with which the first is being mixed. The extension of the absorption band must be avoided if the degree of saturation of all intermixtures of hues is to be maintained.

Only five hues are necessary to give a circle of hues of equal saturation, and with black and white the complete scale can be formed. This brings me to the principle mentioned earlier; standardisation of small numbers for production, giving a wide freedom in application.

When the scale is established in the form of a double cone devised by Dr. Ostwald, psychological factors and sensations can be related to it. The relationship of warm and cold colours, varying degrees of light reflectivity, advancing and receding, active and passive colours, and so on, can be clearly visualised and demonstrated to those who have no instinctive colour sense.

There are three main approaches to the application of colour in building. I have no neat terminology to offer, but for want of a better word I will call the first approach "decorative." The commonest sign of this approach is the exaggeration of detail, picking out lines, or the superimposition of a pattern foreign to the surface on which it is being applied. It would be a mistake to condemn this approach, but treated as a method it is almost bound to be taken too far and lead to some form of decadence.

### The "Camouflage" Approach.

The second approach might be called "camouflage." It is very useful and often essential in the colouring of existing buildings or in attempting to rectify unfortunate design in new ones. Colour must be treated as the equivalent of a physical force in building; it can destroy, exaggerate or modify. Colour used with understanding can modify an ugly proportion, reduce an uncomfortable glare, enliven a dull space, simplify a complicated space, lighten a dark or darken a light space.

The third approach is the one I should like to propose for new building. Colour and form are literally inseparable. Therefore, the architect must achieve the organic relationship between the two. All surfaces to be painted are subject to certain natural and functional conditions, such as the degree of daylight falling upon these surfaces, their orientation, and most important, the functions for which these surfaces are forming a background. It is necessary to analyse these conditions in a building before selecting colours. But although these factors go a long way to determine the nature of the colour, the actual colour cannot, of course, be achieved by mere analysis, but must be left to the creative ability of the architect.

I suggest, however, that the resulting colour scheme should be able to stand up to rational analysis. If, therefore, form and colour are going to have this organic relationship, the architect must realise that at the early sketch design stage, he is actually determining the nature of the colour. If this relationship is not maintained, the colour will not belong to the architect's original intention and will probably be either merely decorative or a camouflage.

I should like to illustrate some of the points I have made in my talk by describing the use of colour in primary schools which have just been built by the County Architect's Department in Hertfordshire.

A primary school is a particularly interesting building for colour work because it contains three different kinds of spaces. The entrance, dining and assembly halls are spaces in which there is a comparatively high degree of activity and in which the children only remain for short periods. This suggests the possibility of using a number of fully saturated hues. In the teaching spaces the children are less active, but it would be a mistake to design these spaces only for concentration and academic purposes. Infants' teaching spaces should be warm, and semi-saturated colours are suggested. The schools also contain quiet domestic rooms in which another approach is required. The whole school should, of course, reflect the gay character of the young children for whom it forms an environment. Remember that the younger the child, the lighter his skin, and the brighter his clothes. As we get older our skin tends to become darker and our clothes duller. Young children react to, and prefer, simple primary colours, rather than subtle and sophisticated ones.

Although we have made one or two experiments in the use of fully saturated colours on the exterior surfaces, technical limitations prevent that unity of character between interior and exterior which a successful building should express.

In the entrance hall of the Cheshunt and Essendon schools a bright red has been used on one wall because in these areas there is considerable movement and activity. In the Essendon example I feel the saturation of the red should have been reduced because of the smaller area. In this school the red wall is only eight feet away from a bright gloss yellow side wall which reflects the red and makes part of the yellow surface appear orange. Yellow, being a lighter colour, is placed nearer the window in the lighter position.

In the assembly hall at Cheshunt, as in the rest of the school, the application of colour has been controlled by the nature of the structure; that is to say, panel inserts within a framework. All members of the frame are exposed and painted a uniform grey, while the panel inserts are the vehicles for colour, which is, therefore, controlled in its area and does not destroy the nature of the structure. The starting point in the colour scheme was the wood block floor—a warm colour; this suggested the possibility of a blue ceiling. The wall panels from ground level to door height are nearly black and the external wall linings under the clerestoreys are white. This, together with the fact that there are clerestorey windows on all sides, helps to reduce sky glare. A spark of warmth is provided by the bright red curtain, a movable item. Two arguments can be used to defend the very dark wall panels; firstly, that they will not show dirt marks, and secondly, one can make a case for dark heavy colours near the ground and lighter ones higher up. The earth and the sky are the analogy in nature. The entrance doors, which are in one of these dark panels, are painted the same colour as the panel, in order to avoid destroying the reality of the doors being in the same plane as the panel. Similarly, the door frame is not accented by colour but merely by the light and shade of its form. If the doors had been painted a different colour it would become a decorative treatment which would have exaggerated a small surface in such a large space.

In the dining hall, the wall separating the kitchen from it is painted nearly black in order to conceal marks. All wall surfaces around windows are painted white to reduce glare. The large gable and panel over the low entrance from the entrance hall is painted bright blue in order to dissociate it strongly from the framework around it. The panels in the weakly light entrance space under are purposely painted a dull green to be in keeping with the natural conditions of this space.

The doors in the circulation areas are painted fully saturated colours and are frankly decorative and contrast with the gloss white wall surfaces. In the circulation area in the infants' portion of the school, which is dog-legged on plan and has windows facing south, the light and shade pattern is very marked. All wall and ceiling surfaces are, in this case, painted gloss white in order that the play of light and shade can be seen to the best advantage. Moreover, the white surfaces provide a good background to receive subtle colour reflections from different weather conditions and surfaces outside.

The circulation and cloakroom area at the Letchworth school is a complicated arrangement because its direction is diagonal across a square structural grid. The function of the colour here was to simplify, and highly saturated colours could be used because the children are always on the move in this space. All surfaces facing in the same direction are painted the same colour. Bright yellow, bright red and dark green were chosen. The surfaces on which the windows occur and those opposite are white. This treatment emphasises the repetitive nature of the plan, and prevents the perspective view down the circulation area from becoming confused. The cloakroom fittings, which are made of the same material as the partitions, are dissociated from them by being painted a different colour. Their surfaces are useful for the display of bright colour, which can also be chosen to distinguish girls from boys.

**Colour in Teaching Spaces.**

It is difficult to talk about the colour in teaching spaces without digressing into details of the design. There are subtle differences to be recognised between rooms for infants and juniors, but in so far as colour is concerned I consider that the ceilings should be white, or nearly so, in order that full advantage can be taken of venetian blinds where they are used and to minimise light and shade contrast when artificial light is used.

Daylight should be reflected as much as possible over the whole area of the space. Every effort should be made to minimise the contrast between the sky and the wall surrounding the window openings. The upper portions of the walls should be very light in order to concentrate interest at the lower levels. This treatment helps the space to harmonise with the scale of activity in the room.

Although we must not make prescriptions, variations of yellow, warm greens and pinks are suitable for hued wall surfaces, because they avoid being cold or too academic. We have taken the opportunity of colouring low cupboards and fitments brightly to aid concentration of interest at low level. Cupboards two feet high, each with two square doors, have had each door painted in different bright hues. The pair of lines chosen were yellow and orange, orange and red and blue and turquoise. The colours were chosen close to each other on the scale, so that their reflectivity values should not be too different and disrupt the form of furniture. Large areas of the same colour would have destroyed the scale required. The result is a strong vibratory effect of primary colours which echoes the activities in the room without disrupting the form of the furniture.

We have, nowadays, to place a disproportionate reliance on paint because of the difficulty in using self-coloured or natural colours. This condition increases the need for subtlety and the responsibility of architects using paint. The absence of natural materials in a building makes it all the more important that warm and earthly colours should predominate. This applies particularly where gloss paint is used. Although gloss paint may often have to be used because of durability or hygiene, it should be remembered that the hue value is less pronounced from a glossy surface, especially where a lot of light is falling on the surface. This is further emphasised with the use of dark colours and underlines the point I made earlier that it is often more appropriate to use dark colours in dark areas and vice versa.

Let me conclude by saying that more care and money should be spent on the colour of buildings, for by colour alone can the true values of a building be expressed, or the failings mitigated.

# THE SOUTH BANK RIVER WALL

## Work Now Well Under Way

WORK is now well under way on the construction of the new South Bank river wall between Waterloo and Westminster Bridges, and progress is being made with the construction of No. 1 Cofferdam formally started by Mr. Herbert Morrison, M.P., Lord President of the Council, last month.

During the sinking of the boreholes along the length of the proposed river wall site a number of samples were taken at various depths, enclosed in air-tight tins and taken for testing to the laboratories of the London County Council's Chief Engineer's Department at the County Hall. Granular materials, such as sand and gravel, were tested for moisture content and particle size. Cohesive soils, such as silt and clay, were tested for moisture content, liquid limit, plastic limit and by triazial test for sheer strength and angle of internal friction. From these results the pressures acting on the wall and at the base of the wall were determined, and this information has accordingly been incorporated in the design of the wall.

Meantime, granite for the wall is being quarried in Cornwall, at Penryn and Bodmin. After splitting, groutnecks, triangular in section, are being cut in the stones into which concrete will be poured for bonding them in the construction of the wall. Flat slabs, about 12 in. by 12 in. by 2 in., are being cut to provide the dressing for the top of the wall.

Roughly halfway along the length of the wall there is to be constructed a two-way flight of watermen's steps, connecting the road level with the water's edge.

# PRESERVATION OF TREES

By H. V. Lanchester, D.Litt.

THE memorandum* issued by the Ministry of Town and Country Planning, and briefly referred to last week in these columns, is designed to guide local planning authorities as to policy and procedure under Tree Preservation Orders. These are made in accordance with Section 28 of the Town and Country Planning Act, 1947, in substitution for the powers included in the Acts of 1932 and 1943, which were repeated on July 1, 1948, though orders made before this date remain in force, except so far as they may be found to conflict with the provisions in the Forestry Acts.

In general, preservation orders will affect woods and plantations to a much less extent than detached and hedgerow trees. It may be assumed that good forestry will not as a rule conflict with suitable maintenance of woodland; only in a scheme for transfer to other purposes would a question arise. Such a clearance would not be permitted where the wood is an integral feature in the landscape. There are provisions for compensation when economic development is affected, but the commercial value of isolated trees and groups is less than in the case of marred woodlands where systematic felling operates, while their influence on the landscape effect is likely to be greater.

The main difficulty in the operation of these proposals lies in the contacts they demand between the Ministry of Town and Country Planning, the Board of Trade and the Forestry Commissioners, but this is recognised in the Preservation Order, and measures are included to meet it. The programme in connection with the Orders is as follows: the authority suggested is a County District Council which will prepare its statement and explanatory maps based on the 25-inch ordnance sheets, on which the features to be preserved are marked in suitable ways. These will be submitted in duplicate to the Ministry of Town and Country Planning. On such submission notices will be served on owners and occupiers of land affected.

This procedure would be followed by numerous consultations between all parties in order to arrive at decisions as to what would be reasonable, in all cases giving primary consideration to the landscape amenities, but subject to those studying the economic requirements of the district as regards the claims of agriculture and timber production. Building will more rarely introduce a conflicting element, though in the past it has been responsible for a wanton destruction of good trees.

In view of the neglect of this aspect of natural beauty that has, up to comparatively recent times, permitted the destruction of interesting trees and plantations, this Order has, at any rate, the merits of drawing attention to the subject, and setting up machinery for its operations, but it will take an appreciable time before it can achieve the results which are aimed at. The authorities are not at present well equipped to cover all the ground necessary in implementing such a far-reaching programme, and will need to evolve a system of study to secure all the information demanded.

In order to assist those charged with this work, it appears to demand that a start should be made on a specifically local basis, and that rural districts or even parish councils should invite committees of suitable persons to cover their own areas and make recommendations which could be passed on to the controlling authority for embodiment, if approved in its own plans. There are many residents in rural areas who, though not at present taking any part in the local councils, would be specially qualified to advise on æsthetic and correlated aspects and thus fill a gap that exists in the standard bodies charged with local government. Support on these lines would greatly facilitate the work of the technical staff of the controlling authority, who would require a long time to carry out the task imposed on them *ab initio*, even if workers could be chosen with the special qualifications demanded, qualifications somewhat outside the usual range of those expected in a council officer. There would not be an unlimited supply of experts of the calibre of a "London" or a "Capability Brown."

It would seem obvious that the exceptional task laid down for the planning authorities needs an exceptional provision of methods for coping with it, and either that we have indicated above, or some other of a similar type, will have to be devised if this task is to be carried out successfully.

* Memorandum on The Preservation of Trees and Woodlands. H.M. Stationery Office, 1949. 6d. net.

# CHURCH LIGHTING

## Five Classified Methods

CONFLICTING opinions have been held on the methods of lighting churches since artificial light was first used, said Mr. L. C. Rettig in his paper on "The Lighting of Churches," which he read at a meeting of the Illuminating Engineering Society, at 2 Savoy Hill, W.C.2, on February 8. Following is a summary of his remarks:—

Those most closely connected with the problems of church lighting are the lighting engineer, the architect and the church authority. The engineer has to ensure that both clergy and laity have sufficient light by which to read prayer and hymn books (often in very small print); the architect has to safeguard the final appearance of the installation with regard to the lighting equipment itself, and, not less in importance, the proposed method of wiring; and the church authority's sphere is undoubtedly that of finance. It follows, therefore, that all those concerned should be familiar with the various aspects of the problem.

The changing architectural styles and the emergence of different creeds and denominations is in itself a fascinating study:—the progressive building from Saxon to Norman times; the centuries of Gothic styles; the Renaissance and Georgian periods, and lastly, the twentieth-century conception of building form. It must be agreed that with the wide variants of religion and structure, inflexible rules for lighting cannot be laid down.

Previous approaches to the subject of church lighting have usually taken the form of a review of past and current examples of actual installations. It is felt that further guidance may be found in considering the suitability of the accepted five classified methods of illumination, their limitations and characteristics.

The *direct method* provides up to 90 per cent. of the available light in a downward direction and is mainly used for concealed lighting and flush ceiling panel lighting. In the first case the light source must be concealed from the view of the congregation and can only be used where fixed seating is installed. Limitations of mounting height and the angular placement of fittings must be observed in order to avoid glare and some upward light is desirable to avoid creating unduly dark roof spaces. Where flush ceiling panels are to be used care must be taken to avoid high brightness ratios between the glass and surrounding woodwork or ceiling, either by providing some upward light or by short return panels on the actual fittings. Concealed lighting is mainly suitable for Anglican and Roman Catholic Churches and some Non-Conformist churches of traditional design. Flush panels of opal or prismatic glass can best be used in chapels and meeting rooms but also have applications in modern churches of all denominations.

The *semi-direct method* allows up to 40 per cent. upward illumination. It has advantages where dark wall finishes are used in the upper part of a church, and is mainly provided by pendant fittings and wall brackets. It is recommended that, with glass pendants, mounting positions should be 20 degrees radially remote from any point of focal attention, in order to ensure freedom from disability glare, and that locations for both pendants and brackets should be selected with reference to architectural features, avoiding the use of columns or arches for fixing purposes.

When the *general method* is used downward and upward light are found in about equal proportions. Utilisation is as for the semi-direct method but is less efficient. It is only justified when upper walls or roofs are exceptionally dark. Specially designed fittings with no horizontal lighting component will have increasing use for church work since the glare factor is eliminated.

The *semi-indirect method* is not recommended, except for church halls. The use of this system for hotel and restaurant work has created a secular association. The downward (40 per cent.) component renders the method inefficient from a power consumption point of view.

The reflecting properties of ceilings and walls are used as the light source with the *indirect method*, and since the efficiency is much lower than other systems and the light coloured surfaces must be permanently maintained in good condition, the running costs must be carefully assessed. This method is often the only answer architecturally. The avoidance of large areas of plain surface and also of the use of polished surfaces will create favourable conditions for indirect systems. Care must be exercised in arranging cut off lines on walls and soft graduations from dark to lighter areas.

It will be realised that special attention must be given to altars and other especially significant areas. Plain polished metal for church plate cannot be revealed and the use of embossment is needed to reflect both day and artificial light. Silhouette lighting has been used behind the altar with good effect when the positions of crosses and candlesticks are invisible from the congregation.

The realisation of the importance of the correct usage of lighting methods, fittings and lamps will, it is hoped, lead to the adoption of better standards for re-lighting projects and for new work.

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**R.I.B.A. Examination Papers.**

The questions set at the R.I.B.A. Final and Special Final Examination held in December have been published and are on sale at the R.I.B.A., price 1s. (exclusive of postage).

# HOUSING IN AUSTRALIA

*In Australia, as in Great Britain, the housing situation has presented many problems which are accentuated by the requirements of immigrants. In the articles printed on this page a correspondent outlines the steps being taken by the Federal Government to solve these problems, while Major J. G. Martin (who was for many years General Secretary of the National Housing and Town Planning Council and is now touring the Commonwealth) contributes some notes on the planning of kitchen and dining space in low-cost houses.*

## POST-WAR PROGRESS

**[From a Correspondent]**

THE Australian Prime Minister, MR. JOSEPH BENEDICT CHIFLEY, summed up the local post-war scene when he said Australians intended their public buildings and private homes to be worthy of their nation's future. These words have real meaning. After 16 years of settlement, Australian architecture, where it is given full scope, is developing a new individuality.

Building is the largest industry in the country, according to Federal experts, and, in the years before the last war, involved the spending of up to £65,000,000 annually. It is considered that this total will soon be far exceeded.

The greatest attention is being given to house construction, although projects for hotel, apartment and public buildings also are under way. There is, at the moment, a race between incoming new residents and new roofs to cover them.

In Australia there is only the beginning of a true contemporary architecture, but when it is developed it will be found that it is probably closest to contemporary architecture of the U.S.A., particularly the Pacific Coast.

Australia has a great deal in common with California climatically. Shelter from the sun and provision for coolness are more important than insulation against cold weather. But though he likes to temper the sun's rays the Australian is fond of light and air, and emphasis on glass is found in newer homes and city buildings.

Australia's desire for permanence in construction has the advantage that there is little likelihood of a dwelling becoming outmoded. Design is influenced perhaps by the small quantities of some materials available in some ranges, though new construction materials are becoming available.

Because of the scarcity, and therefore high price, of certain materials, unusual designs are confined mostly to homes in the upper income groups.

The central Federal Government is co-operating with the six States in pushing ahead with housing schemes everywhere, but it may be another 10 years before all demands are satisfied. Naturally, the design of State-sponsored homes is guided more by economy than æsthetic demands, but the general effect of one-family suburban units being erected today is not unpleasing. They are mostly brick and fibro-cement structures, roofed in an attractive range of colours.

As in other States, the New South Wales Government is keeping an eye on the allocation of building materials. Production, too, is being stepped up. The output of the State brickworks was expanded last year. A new private company, operating at the inland towns of Bathurst and Orange, is producing large quantities of cement tiles, available in any colour and the equal in durability of ordinary tiles. Steel tiles are also helping in the problem of shortage of roofing materials.

In Sydney the Commonwealth Experimental Building Station, an organisation of the greatest importance to Australia, covers all aspects of architecture and building, design and construction. It was set up by the Federal Government to ensure that every Australian and new Australian was comfortably housed. The problems associated with the uses of materials are so many and so important as to justify the appointment by the Commonwealth Council for Scientific and Industrial Research of an Officer-in-Charge, Building Materials Research, whose responsibility is to plan and co-ordinate the C.S.I.R. part of the Station's work.

Australia has been to considerable trouble to explain, in publicity abroad, that the nation suffers from a housing shortage. However, the problem is being tackled so energetically that it does not seem that shortages will remain indefinitely, no matter how many new citizens begin life afresh there.

## THE PLANNING OF KITCHEN AND DINING SPACE

**By Major John G. Martin, M.B.E., Hon.A.T.P.I.**

MUCH thought has been given in recent years to the planning of the kitchen by architects and equipment manufacturers in Australia. Formerly, a kitchen was merely a room containing a fuel stove, and the householder was left to provide all other furniture and equipment. The modern tendency in Australian housing schemes is to build-in the maximum amount of equipment and to reduce the size of the kitchen to eliminate unnecessary movement during the preparation of meals. In effect, the kitchen is now properly regarded as a laboratory, and all kitchen processes have been analysed and reduced to an orderly sequence of operations in line with the principles of domestic science.

It is natural that this development should have affected the arrangements for the serving of meals. When building costs were low it was usual to provide a fairly large dining-room as well as a large or moderate-sized kitchen. Actually, however, many Australian families—especially those running a home without help—were accustomed to have their meals in the kitchen on everyday occasions and to reserve the dining-room for use on special occasions. The greater convenience of the kitchen, the reduction of wear and tear on dining-room furniture and floor coverings (especially in connection with the feeding of young children), and the warmth of the kitchen in cold weather, were all factors which influenced this arrangement.

The whole question of kitchen and dining space in low-cost homes has been carefully studied by the Commonwealth Department of Works and Housing, and much technical advice on the subject has been given by the Department to the various State Housing Commissions, which are the agencies responsible for conducting house-building operations in Australia.

It is recognised that reduction of the size of kitchens tends to eliminate the serving of meals therein. Consequently, for flats and small houses where there are no children the small compact kitchen, with either an adjoining dining-room or with dining space in the living-room, has become general practice. This arrangement, however, is considered unsatisfactory by low-income families in which there are a number of young children. A housing survey carried out in America disclosed that tenants generally preferred (i) that the dining space should not be in the living-room, but should be out of sight of the kitchen work area, and (ii) that the dining space should also be useful for other purposes.

A study of the dining needs of the low-income group indicates that a desirable plan should include the following features:—

(1) Meals space in or adjacent to kitchen, with direct access to cooking facilities for breakfasts, children's meals, and other informal meals.

(2) If this space is in sight of the working area an alternative meals space for special occasions.

(3) Suitability of meals space for other purposes, such as sewing, ironing, housework, etc.

(4) Satisfactory lighting, ventilating, and heating arrangements.

(5) Durable finishes to minimise damage caused by small children.

The Department of Works and Housing suggests that the above requirements can be met by one of the following methods:—

(a) *Provision of a large kitchen.*—This would contain dining-table and chairs, in addition to the cooking equipment and kitchen fittings. This arrangement has the obvious advantage of convenience for meal-serving, and the table is useful as additional preparation space and for ironing, etc. The table will, however, be in full view of the sink and work benches. If, for reasons of economy, a separate dining-room cannot be provided, the living-room should be large enough to contain a dining-table and chairs (for special occasions) and possibly a sideboard.

(b) *Provision of a kitchen with a meals alcove.*—In this case a suitable alcove would be provided in the kitchen. The meal table and seats can either be built-in to the minimum space or else be movable. The advantage of this arrangement is that the table will be convenient to the kitchen but screened from a view of the sink and work benches. In low-rental homes for small families an additional dining-room would hardly be essential, as the alcove could be made sufficiently attractive for dining needs.

(c) *Provision of a kitchen with a small meals alcove and also a dining-room.*—In this case a small meals alcove would be provided in the kitchen, for use as desired, but there would also be a separate dining-room. Such an arrangement would fully meet the dining needs of most families, but would obviously involve greater cost. The dining-room would provide the desired separation from the kitchen for evening meals or for entertaining.

Australian Housing Authorities have unquestionably derived much advantage from the valuable reports on different aspects of the housing problem issued by the Ministry of Health's Central Housing Advisory Committee. Many thousands of modern houses are urgently required in the Commonwealth and the building programme foreshadowed by the Australian Government is of necessity a long-run one. It can be stated with confidence that the State Housing Commissions are determined to follow Britain's example and to secure improved standards in the layout, construction, internal planning, and equipment of the new homes.

# IN PARLIAMENT

## The Rent Bill

DURING the Committee stage of the Landlord and Tenant (Rent Control) Bill, MR. A. BEVAN, the Minister of Health, accepted an amendment to provide that the standard rent of a dwelling house should be the rent at which it was let beginning after September 1, 1939, instead of August 14, 1945.

MR. ELLIOT, for the Opposition, criticised the Minister for accepting retrospective and retroactive legislation.

MR. BEVAN said that the proposals were not retrospective in the sense that a tenant could recoup from the landlord of premises. A new standard rent, if one were determined, would operate from the date of the decision of a tribunal.

The amendment was carried by 249 votes to 117.

COMMANDER GALBRAITH moved the first of five amendments which, he said, were designed to give a landlord the same right as a tenant to apply to a tribunal to fix a reasonable rent, and to permit a standard rent being raised as well as lowered by a tribunal. He said that both parties to a contract should have the same rights.

MR. BEVAN said he was prepared to accept the first amendment, which would have a limited application. It was reasonable that the landlord should be able to go to the tribunal to reassure himself on what the appropriate standard rent should be because he might wish to dispose of his property or have it valued. He was not prepared to accept the subsequent amendments and thereby arm the tribunals with the power to increase rents, because it would be unjust to lift the umbrella of protection which the Rent Control Acts still held over the tenants.

The first amendment was agreed to. The second was negatived by 269 votes to 97, and the remainder were not moved.

MR. BEVAN moved a new clause which, he said, was the fulfilment of a pledge given on the second reading of the Bill and abolished all premiums. In future it would not be possible for people to charge on assignment of rent-controlled houses. There was one qualification. It might easily happen that a contractual tenant would have secured under the provisions of the Bill a reduced rental equivalent to a premium paid. It would be possible for the tenant to charge a premium equal to the remaining value of the reduced rental equivalent, if he became an assigner, to the person acquiring the tenancy from him. That amount would be an extinguishing category, because after the Bill became an Act no premiums could be charged. The new clause made it impossible for a tenant to charge key money. The time had come to put an end to a mischief which had caused considerable ill-feeling, much hardship, and had aroused great public indignation.

After some debate the clause was agreed to.

A further new clause, to provide that excessive prices for furniture, etc., should be treated as premiums, was agreed to.

**Rent Restrictions.**

In the House of Lords, LORD BUCKMASTER called attention to the law relating to rent restriction, to the injustice of refusing any relief to private landlords while houses belonging to local authorities and statutory corporations were excluded from the operation of those Acts, and to the urgent need for a revision and consolidation of the existing Acts. He said that the lot of the rent-restricted property owner was grievous. In a financial sense they were being exterminated. At the very moment when the people were crying out for homes, these houses were allowed to fall into ruin because the owners were denied the right to charge a reasonable rental. Injustice permeated every phase of rent restriction as it now stood.

In the debate which followed, LORD HYLTON urged that the repairs allowance should be very substantially increased.

THE LORD CHANCELLOR said that Lord Buckmaster was asking for the impossible at present. In certain cases the Acts were bearing hardly on the landlord, but that was a small matter compared with the frightful hardships being imposed on the tenants. The Government were trying to improve the Acts. In 1946 they had dealt with furnished houses which had been let for exorbitant sums. They were now dealing with premiums, another scandal. The time must come when they would have to deal with the question of landlords' rents.

**Building Workers.**

MR. H. L. AUSTIN asked the Minister of Labour if he would state the trades of the 41,000 building workers unemployed on December 6, 1948; what were the reasons for such unemployment; and what steps were proposed for the employment of this valuable productive labour.

MR. ISAACS said that the amount of unemployment, namely 3 per cent., was not excessive for this time of the year, and most of it was accounted for by men changing jobs; 60 per cent. of the men unemployed on a Monday were in work again before the end of the week. The following figures gave an occupational analysis of the number of men and boys registered as unemployed in Great Britain on December 6, 1948, whose last employment was in the building and civil engineering industries: General Foreman (Building Trades), 62; Carpenter, Joiner, 1,180; Bricklayer, 1,131; Mason (not monumental), 59; Monumental Mason, Stone Carver, 9; Slater, Tiler (roof), 175; Plasterer, 323; Floor and Patent Roofing Layer, Tiler (Wall and Floor), 57; Painter, Decorater, Paperhanger, 2,949; Plumber, Gas Fitter, etc, 520; Glazier, 52; Labourers to above Occupations, 1,501; Navvy, Mains Layer, etc., 434; Constructional Iron and Steel Work Fitter and Erector, 94; Builder's Labourer (not otherwise shown), 2,303; Navvy's, Mains Layer's, etc., Labourer, 303; Constructional Iron and Steel Work Erector's Labourer, 15; General Labourer, Heavy Work, 9,246; General Labourer, Light Work, 12,671; all other occupations, 7,874. Total, 40,958.

MR. BOSSOM asked the Minister of Labour if he would state the total number of operatives in the building industry at the latest date available; and give the separate figures of the numbers in the various trades within the industry.

MR. ISAACS said that the latest available analysis related to July, 1948. The following figures showed the estimated total number of male employees in the building industry in Great Britain at that date, with separate figures for each of the main crafts: General Foreman, 8,090; Carpenter, Joiner, 146,440; Bricklayer, 112,280; Mason, 9,180; Slater, Tiler (Roof), 11,400; Plasterer, 34,450; Painter, Decorator, Paperhanger, 152,860; Plumber, 60,630; Glazier, 2,190; all other occupations (including labourers), 506,130. Total, 1,081,890. This total includes 38,240 men aged 65 and over. The occupations of these men were not known and they were therefore excluded from the analysis in the table.

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# RECONSTRUCTION IN MALTA

## An Active Rehabilitation Policy

THE Malta Government is pursuing an active rehabilitation policy. At the end of the last war a report was made by Sir Wilfred Woods, on behalf of the United Kingdom Government, on Malta's financial position, and, as a result, H.M. Government decided to make Malta a single grant in respect of war damage and reconstruction which would leave her in a position to manage her own finances under the new constitution. The sum fixed was £20 million, which together with the £10 million grant during the war, with interest, brought the total assistance grant to £31 million. It was also decided that, in spite of the fact that the new constitution gave her internal self-government, Malta should be enabled to benefit by the provisions of the Colonial Development and Welfare Acts, and an allocation of £1½ million was made.

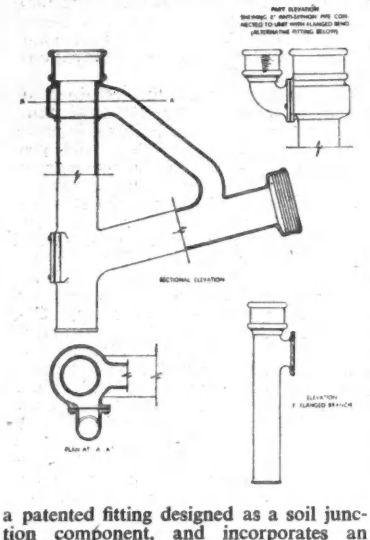
Under the new constitution the Malta Government is responsible for reconstruction. A housing department was set up in 1945, and a system of registration for the homeless was instituted; the Government has assumed the power to requisition vacant premises and allocate homes to those most in need.

Town planning of the three cities—Senglea, Cospicua and Vittoriosa—and Valetta was the subject of a report, in 1945, by United Kingdom town-planning experts, though since then the new Government has found it necessary, owing to certain practical local needs, to depart in some cases from the report's recommendations. Rebuilding has been proceeding steadily, particularly in the dock area, and a new town plan for Valetta was being drawn up last year. The Government is building blocks of flats for workers, and has now begun rebuilding some of the Government offices destroyed during the war.

# SOIL DRAINAGE

## A Simplified System

A SIMPLIFIED soil drainage system has been produced by B. Finch and Co., Ltd., of Belvedere Works, Barkingside, Essex. This "Spruce-Thrower" soil unit, which conforms to statutory drainage bye-laws and to British Standards Specification, is



a patented fitting designed as a soil junction component, and incorporates an anti-syphon branch. It is made of cast-iron, coated with Dr. Angus Smith's solution. The anti-syphon branch is cast on to the soil-pipe branch at one end.



Suggested layout incorporating the "Spruce-Thrower" Soil Unit

Layout of actual job using orthodox fittings

The other end, which is cast on the main vertical soil pipe, is isolated from the bore of the soil stack by the formation of an annular space cast round the vertical soil pipe. This space is formed by the insertion, during manufacture, of a cast-iron liner which completes the soil-pipe bore. The exterior of the annular space carries a flange which can be cast in any position, and from this the normal anti-syphon pipe is carried up and/or down by the use of a 2-in. diameter flanged branch or bend. The unit can be used equally well on one- or two-pipe systems and, if necessary, branches can be cast on to receive bath, sink and lavatory wastes in one-pipe systems. The unit is made with 3½-in. diameter and 4-in. diameter, and can be supplied with the length of branch either 17 in. or 23 in. The position of the flange for the anti-syphon connection, inspection doors and branches can be varied.

# AN APPEAL TO BUILDERS

## "Complete the Houses More Quickly"

AN APPEAL to builders, whether members of the National Federation or not, to go all out to finish houses more quickly during the coming building season was made by the new president, MR. NORMAN LONGLEY, of Crawley, Sussex, at the annual dinner of the Cambridge Association of Building Trades Employers held at Cambridge on February 18. He was making this appeal, he said, at the request of the Minister of Health.

There should be a narrowing of the gap between the date of the letting of a contract and the start of work, and a reduction of the period of building. The first object could, he was sure, be attained without detriment to the preliminary work which was essential if a proper production rhythm was to be achieved once work had begun. Now that supplies of materials were increasing he was confident that, unless there was some unforeseen set-back, all houses already begun, and many of those that would be started in the near future, could be finished by December. The greater the number of houses completed during the earlier part of this year the better were the prospects of an increased allocation above the 180,000 at present contemplated.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# INCENTIVES AND BONUS SYSTEMS

## Operatives' Views on Why They Should be Dropped

AN ARTICLE giving reasons why the incentive and bonus systems of payment in the building industry should be dropped is contributed by Mr. W. H. Edwards, Wolverhampton District Organiser, to the February number of "The Building Worker," the official organ of the Amalgamated Union of Building Trade Workers of Great Britain. In the article Mr. Edwards states:—

The two-year life of the "Summary of Settlement regarding Incentives and Wages, October 20, 1947," comes to an end in October of this year.

It behoves every organised building trade worker to analyse the position *now*; he should ask himself, "Has the Bonus System worked?" Have we had a square deal with its inception? Have the employers carried out the Agreement properly? Any query appertaining to the Agreement and its working in the past 14 months should be thought over.

I have made notes on this subject in the last six months, and this is what it all adds up to:—

(1) Very few schemes are operating.

(2) Most of the few operating cause endless arguments and queries.

(3) Many small employers are paying fixed rates of anything from 3s. per hour to 3s. 4d. per hour.

(4) The standard of craftsmanship on some of the Bonus Schemes suffers considerably.

(5) The large number of men not employed on bonusable operations who claim the Agreement was made for the minority of the Trade.

A large number of employers, general foremen, etc., have told me they are heartily sick of the Agreement, and hope it will not be renewed this year.

If all our members will think deeply over this matter they will inevitably come to the same conclusion as myself. We can do all the building needed in this country and at a good rate. What we need is a fully guaranteed week and the rest of the rise which we claimed a year ago.

We want to build real homes—not slums of the next decade.

Let your branches know what you think about this matter, and then let our Executive know so that, when the time comes to review the existing Bonus Agreement, they will know exactly what to say and how to act.

# STEEL ALLOCATION FOR HOSPITALS

## Increase from April 1

Regional hospital boards have been informed by the Ministry of Health that they are to receive more steel from April 1 to enable work to start on building and development. Increases for the second quarter of 1949 range up to 50 per cent. on the present allocation, rising quarterly until the year ends. In the first quarter of 1950 present allowances will be doubled.

In the year beginning April 1 next work on hospital building and development, totalling £10,875,000, will be put in hand with the new allocation. The extra steel applies to the 13 regional boards in England. Those in Scotland and Wales are dealt with separately and have their own allotments.

# NEWS IN BRIEF

**Pre-War Housing.**

A pamphlet entitled "Housing: A Record of Conservative Achievement," by Mr. Alfred C. Bossom, M.P., has been published by the Conservative South-Eastern Provincial Area, Bridge-street, S.W.1. The price is 6d.

**Paper on Treatment for Boilers.**

A paper on "Control of Water Treatment for High-Pressure and Low-Pressure Boilers using Softened Water and Process Condensate as Make-up," was read at the Institute of Fuel, on February 22, by Mr. G. Nonhebel, B.A., F.R.I.C., M.I.Chem.E.

**Lecture on Use of Lead.**

On January 25 the Huddersfield branch of the Federation of Master Builders began the first of a series of meetings which are being specially held for the benefit of builders, architects and craftsmen generally. The speaker was Mr. L. E. Allen, of Lead Industries Development Council, whose subject was the modern trend in the use of lead in building.

**Allocations of Tin Metal.**

The Ministry of Supply announces that the Combined Tin Committee have made the following additional interim allocations for the first half of 1949:—Australia, 55 long tons; Austria, 285; Brazil, 180; Canada, 460; Ceylon, 2; Chile, 50; Czechoslovakia, 180; Denmark, 70; Egypt, 30; Finland, 35; France, 1,210; Hongkong, 35; Hungary, 60; Ireland, 7; Japan, 2,000; Korea, 10; Mexico, 75; Norway, 40; Poland, 305; Roumania, 150; Spain, 540; South Africa, 55; Sweden, 300; Switzerland, 80; Syria, 50; U.S.A., 5,250; Yugoslavia, 80; Others, 40. Total, 11,634 long tons.

**Prizes for Apprentices.**

Two Birmingham building apprentices, Frederick Arnold Johnson, of Warley, employed by Messrs. William Sapcote and Sons on an apprentice master project at the Perry Hill Estate, Smethwick, and Randolph Brian Woodley, of Ward End, Birmingham, employed by Messrs. H. Dare and Sons, Ltd., have won prizes for exceptionally good work at technical school and during employment under a scheme sponsored by the Birmingham Area Joint Apprenticeship Committee. Johnson is a student at the Chance Technical College, Smethwick, and Woodley at the Central Technical College, Birmingham. Both are apprentices in carpentry.

**Building in Birmingham.**

The Birmingham Building Trades Exchange and Club held its annual dinner and dance on February 14, at the Grand Hotel; 350 guests were present. Mr. H. J. Manzoni, C.B.E., proposed the toast of the Club. He said he could see a great future for the building trade in Birmingham for many years to come. The City required 100,000 houses, the completion of the civic centre and many schemes associated with the ring road and redevelopment.

Mr. H. Gerald Harper, M.B.E., M.M., the president, assured Mr. Manzoni that the building trade was ready to deal with this large programme.

Other speakers were: Mr. Edward F. Green, Mrs. H. Gerald Harper, Mr. N. H. W. Carr, and Mr. F. J. Osborne, M.C., F.R.I.B.A., president of the Birmingham and Five Counties Architectural Association.

**R.S.I. Prize Competitions, 1949.**

The Council of the Royal Sanitary Institute announce particulars of the prize essay competitions for 1949. Three prizes are offered; the John Edward Worth Prize of £40 for an essay on practical improvements of appliances or inventions used or proposed to be used in or about dwelling houses; the John S. Owens Prize of £15 for an essay on the ventilation of dwellings and its effect on human health, and the Henry Saxon Snell Prize of 50 guineas for an essay describing suggested improvements in the construction or adaptation of sanitary appliances. Intending competitors should apply to the Royal Sanitary Institute, 90, Buckingham Palace-road, London, S.W.1, for a copy of the general conditions.

**Certificate for Craftsmen.**

The Gauge and Tool Makers' Association is launching a scheme, upon which the Education and Apprenticeship Committee has spent many months of preparation, for award under certain conditions of a craftsman's certificate, signed by the president, chairman, and secretary, and bearing the Association seal. It is hoped that this will provide an incentive compatible with the national certificates now awarded for the more technical courses of study. Applications for award of the certificate, which must be made on the special form available from the Association Offices at Standbrook House, Old Bond-street, W.1, will be considered from persons who have served a bona fide apprenticeship with a firm which is a member of the Association, and have also passed the final Examination of the City and Guilds of London Institute Course in Machine Shop Engineering (Machinists', Turners', and Fitters' Work).

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# LAW REPORTS

## BUILDERS' SUCCESSFUL CLAIM

COURT OF OFFICIAL REFEREES.

BEFORE SIR LIONEL LEACH.

**Westgates (Norwich), Ltd., v. Frost.**

His Honour Sir Lionel Leach, sitting in the Official Referees' Court at the Law Courts, delivered his judgment in an action he had heard at Norwich concerning an action by Westgates (Norwich), Ltd., building contractors, against Mr. A. F. I. Frost, to recover the sum of £1,612, the balance of the cost of houses erected by plaintiffs at Norwich under an oral contract.

Plaintiffs' case was that they were to receive the actual cost of the houses, and also the overhead charges, plus reasonable profit, but that such sum was not to exceed the amount permitted by the licences given by the Ministry of Works.

The defendant challenged the claim, having paid the plaintiffs £8,000, and contended that that was the amount plaintiffs were entitled to.

The expert witnesses called were Mr. P. R. Pank, chartered quantity surveyor, for the plaintiffs, and Mr. G. C. Smith for the defendant.

The Official Referee said in his view the arrangement put forward by the plaintiffs was the one he accepted. The licence granted was for the erection of eight houses, six not to be sold in excess of £1,200 and two not in excess of £1,170. These sums included the price of land. He held that there was no illegality in the plaintiffs' claim and gave judgment for the plaintiffs for £1,500, a sum which had been agreed between the parties if defendant was liable. He awarded the plaintiffs the costs of the action.

## BUILDER'S APPEAL

KING'S BENCH DIVISION.

BEFORE THE LORD CHIEF JUSTICE.

**Deptford B.C. v. Cleary.**

The King's Bench Divisional Court, on Monday, dismissed with costs an appeal by Mr. John Henry Cleary, builder, against his conviction at Greenwich Magistrates Court of carrying out certain work at a house in St. Donatts-road, New Cross, without a licence. He was fined £10.

Among his grounds of appeal was a contention that a letter bearing his signature was wrongly accepted by the Magistrate as *prima facie* evidence. In the letter was an admission that the work had been done at the houses, and on behalf of Mr. Cleary it was argued that the letter did not become evidence unless there was proof as to the writer.

The Lord Chief Justice (Lord Goddard), giving judgment, said it was to be regarded that Mr. Cleary had wasted money in taking the case to the High Court, as the case was unarguable. It was proved before the Magistrate that certain work had been done in the house without a licence. The local authority had written to Mr. Cleary, at his address at Deptford, about the matter. Receipt of this letter was acknowledged and purported to be signed by the person to whom it was addressed, the writer saying he had not obtained a licence for the work. The summons was sent to Mr. Cleary at the same address and he appeared in Court to answer it. The Magistrate was entitled to accept the letter as having been written by Mr. Cleary and the appeal accordingly failed.

# OFFICIAL NOTIFICATIONS

**Purchase Tax: Domestic Cupboards.**

The Commissioners of Customs and Excise learn that some registered traders dealing in backless domestic cupboards which are claimed to be exempt from Purchase Tax under Group 11 (n) as being designed for installation as builders' fixtures, have made arrangements whereby purchasers can obtain (sometimes from independent sources) back panels or dust shields for converting the cupboards into free-standing furniture. The Commissioners give notice that such arrangements are incompatible with the claim that the cupboards are *bona fide* designed as builders' fixtures and prejudice the title to tax exemption.

**Control of Paper Boards Relaxed.**

The Board of Trade announce that from March 6, 1949, certain modifications will be introduced in the arrangements for the control of building boards. From that date the home producers will be given bulk licences permitting them to deliver or convert without restriction any quantity of their own boards. Similar arrangements will be made for the delivery of imported building boards, including those held in stock by the Paper Control and which will be sold through the Control's agents, Associated Boards Ltd., 2 Norfolk-street, Strand, London, W.C.2. Stockists of insulation board, hardboard and laminated wallboard will therefore be free to acquire and dispose of any quantity of these boards for any purpose without certificate or permit.

At the same time the Paper Control will cease to purchase imported building boards, which thereafter may be imported by the trade. Import licences will be granted to importers for quantities of 50,000 square feet or more of insulation board or hardboard, provided the importer buys from the Control's stocks twice the quantity imported. Such purchases from the Control's stock may be made through any channel selected by the importer and Associated Boards Ltd., will sell on behalf of the Control to any duly accredited concessionaire or mill agent. The prices at which board will be sold by the Control will remain at the present level.

The existing statutory control over the prices at which imported building board may be sold will be removed as from March 7, although the home-produced board will remain subject to price control as at present. The Paper Control is advising producers, merchants and importers of the detailed arrangements to be made in connection with the proposed changes in procedure.

**Building Board Production.**

In the five weeks ended Saturday, January 8, 1949, the average weekly production of building boards and other paper and board was 30,220 tons (building board 620 tons, other paper and board 29,600 tons). The weekly average consumption was 38,000 tons, and the stocks at the end of the period were 353,000 tons.

**Home-grown Timber Felling.**

The Board of Trade announces that the method of curtailing the felling of sawmill timber has not yet been finally agreed. Licences to fell, however, will be issued on a limited scale as from February 22. Records are being kept of the quantities licensed to each individual merchant since January 1, 1949. These quantities will in due course be taken into account when the details of the scheme for curtailment have been agreed.

# THE SCOTTISH BUILDER

## NEW BUILDINGS

**Aberdeen.**—Corporation to erect new secondary school at Abbotswell at £114,000, for which the architects are J. Ogg Allan, Ross, and Allan, 10, Bon Accord-sq., Aberdeen.

**Edinburgh.**—Corporation to carry out works scheme at the Usher Hall, the Assembly Rooms, etc., for which the architect is A. G. Forgie, Municipal-chbrs., The Royal Mile, Edinburgh. —Corporation to erect at Gorgie a large block of flats, for which the architects are Williamson & Hubbard, 123, High-st., Kirkcaldy, Fife.

**Fifeshire.**—At Leven housing site Corporation will erect housing scheme of 100 houses from plans in the hands of the Corporation architects.

**Glasgow.**—Clyde Navigation Trust, Robertson-st., have plans in hand for a scheme of reconstruction and additions at Shieldhall at £770,000, for which the chief engineer, Mr. Archibald Thomson, Clyde Trust-bldgs., has plans in hand.

**Glasgow.**—Corporation to erect housing scheme and also shops at Ladymuir-st., for which the architect is Archibald J. Jury, Housing Department, Trongate, The Cross, Glasgow.

**Lanarkshire.**—Plans in hand for large scheme of additions and alterations, also excavation and conversion schemes, for the West Benhaw Co-operative Society, Ltd., for which the architects are Motherwell & MacGregor, 10, Bank-st., The Cross, Airdrie.

**Strathaven.**—At the Sun Hotel a scheme of additions, alterations and other works will be carried out, for which the architects and quantity surveyors are Frederick Smith & Partners, 4, Regent-st., Hamilton.

**Colour and Illumination.**

The Colour and Illumination Section of Holland & Hannen and Cubitts, Ltd., 262, Gray's Inn-road, has issued a leaflet entitled "A New Look for the Future." A small display, in the shape of a workshop, illustrating the correct use of colour and illumination in industry, has been prepared by the Section and opened at the Electricity Service Centre in Queen-street, off Cheapside. It will be on view until the end of February.

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# FUTURE CONSTRUCTION

## PUBLIC APPOINTMENTS

*Full details of Public Appointments open will be found in the Advertisement pages of this and previous issues.*

## CONTRACTS OPEN

For some contracts still open but not included in this list see previous issues. Those with an asterisk are advertised in this number. The dates at the heads of paragraphs are those for the submission of tenders; a dagger (†) denotes closing date for applications; the name and address at the end refer to the person from whom particulars may be obtained.

### BUILDING

**MARCH 1.**

†***Hornsey B.C.**—4 houses, Coppetts-rd. J. H. Melville Richards, B.E. & S.

**MARCH 2.**

†**Gipping R.D.C.**—12 houses at Barking. C., Council Offices, Needham Market, Ipswich. Dep. £3.

**MARCH 3.**

***Caine and Chippenham R.D.C.**—Four houses at Sutton Benger and four at Upper Seagry site. Edwards & Webster, Chartered Architects, 32, Market-pl., Chippenham. Deps. £3 3s. each scheme.

**MARCH 7.**

**Biddulph U.D.C.**—50 houses. C., Council Offices. Dep. £2 2s.

**Bishop's Stortford U.D.C.**—62 houses at Havers-la. (Northern) site. E. & S., Council House. Dep. £3 3s.

†***Exeter T.C.**—195 houses at Stoke-hill and Countess Wear estates (1 or 10 contracts). City Treasurer, Municipal Offices. Dep. £2 2s.

†***Greenwich M.B.**—40 flats at Coldbath-st. site; 36 flats at Tuskar-st. site. T.C., Town Hall.

**Ilkley U.D.C.**—8 houses at Menston-in-Wharfedale. A. Skinner, M.I.Mun.E., Whitton Croft-rd. Dep. £2 2s.

**Looe U.D.C.**—10 houses at Sun Rising estate. G. H. Ivory & Partners, 24, Athenæum-st., Plymouth. Dep. £2 2s.

***Merthyr Tydfil E.C.**—Canteen at Dowlais R.C. School. B.E., Town Hall. Dep. £2 2s.

**Middlesbrough T.C.**—52 houses (1 or 3 contracts). B.E. & S. Dep. £10 10s.

**Samford R.D.C.**—48 houses with site works at 6 sites. Johns & Slater, architects, 8, Lower Brook-st., Ipswich.

†***Torquay B.C.**—Re-erection and repair of (a) 19 houses at Westhill estate; and (b) 3 houses at Higher Quarry, Stentifords Hill. B.S., Town Hall. Dep. £2 2s.

**MARCH 9.**

†***West Bromwich C.B.**—Inf. sch. at Hateley Heath estate. M. Schofield, B.S., Town Hall. Dep. £2 2s.

**MARCH 11.**

†***Portsmouth T.C.**—Erection of Paulsgrove prim. sch. inf. depts. City A., Municipal Offices, 1, Western-parade, Southsea. Dep. £3 3s.

**MARCH 12.**

***Merthyr Tydfil C.B.**—Advance preparation of housing site at Aberfan Fawr. Boro' & Waterworks E., Town Hall. Dep. £3 3s.

***Northallerton U.D.C.**—8 pairs of houses at The Crescent, Valley-rd. estate. C., 72, High-st. North. Dep. £2 2s.

†**Penistone.**—10 houses with service road at Fir Tree site, Thurgoland. Noel Heppenstall, architect, 135, Armitage-rd., Milnsbridge, Huddersfield. Dep. £2 2s. Tenders by March 28

**MARCH 14.**

***Bridlington T.C.**—50 houses at Bessingby housing estate. B.E. & S., Town Hall. Dep. £5 5s.

†***Denbighshire C.C.**—Extensions at Ruthin County Offices. Gilbert D. Wiles, County A., Grove Park, Wrexham. Dep. £5. Tenders by March 21. (Cheques payable to C.C. and crossed "Midland Bank, Ltd.")

***Gt. Yarmouth C.B.**—40 houses, Magdalen College estate. Farra Conway, T.C.

**Montgomeryshire E.C.**—New inf. and nur. sch. at Welshpool. T. G. Davies, Director of Education, County Offices, Newtown. Dep. £2 2s.

***Northfleet U.D.C.**—Repairs to 61 houses at Waterdales. E. & S., Council Offices. Dep. £1 1s.

**Northwich R.D.C.**—8 shops with flats above at Weaverham estate. E. & S., Whitehall, Hartford. Dep. £2 2s.

†***Tottenham B.C.**—42 houses at Park-la., Cheshunt. B.E. & S., Town Hall. Dep. £2 2s.

**MARCH 16.**

†***Newcastle-upon-Tyne Regional Hospital Board.**—House for medical supt. at St. Andrew's Colony, Morpeth. J. Walter Hanson & Son, 123, Northumberland-st., Newcastle-upon-Tyne 1.

**MARCH 17.**

***Battersea B.C.**—35 flats at Salcott-rd. and Bolingbroke-gro. B.E. & S., Town Hall. Dep. £2 2s.

**MARCH 18.**

**Clun R.D.C.**—(a) 4 houses at Twitchen-rd., Clunbury; (b) 4 houses at Chapel-rd., Clungunford. C., District Council Offices, The Square, Bishop's Castle. Dep. £2 2s.

**MARCH 21.**

***Upton-upon-Severn R.D.C.**—38 houses at 3 sites. Pemberton & Bateman, architects, 21, Vine-st., Evesham. Dep. £2 2s.

**MARCH 22.**

***Aireborough U.D.C.**—Extensions to caretaker's rooms at Yeadon Town Hall. S., Micklefield House, Rawdon, nr. Leeds. Dep. £2 2s.

***Aylesbury T.C.**—Ten blocks of three-storey flats at Southcourt estate. Raymond C. White (F.), Ceely House, Church-st., Aylesbury. Dep. £3 3s.

***Berkshire Mental Hospitals Management Committee.**—2 pairs of houses for staff, with drainage and access road, at Borocourt Institution, Kingswood Common, Peppard, Oxon. Chas. Smith & Son (F. & A.), 164, Friar-st., Reading. Dep. £2 2s.

**MARCH 24.**

**Runcorn U.D.C.**—44 houses at Russell-rd. estate. A. B. Cunningham, M.I.Mun.E., E. & S., Town Hall. Dep. £2 2s.

**MARCH 26.**

***Wokingham B.C.**—10 houses, 2 shops and 2 flats with incidental drainage and fencing works at Norrye's Barn. Eric G. V. Hives (L.), 3, Cork-st., Reading. Dep. £2 2s.

## PAINTING, ELECTRIC LIGHTING, MATERIALS, ETC.

**MARCH 7.**

**Mexborough U.D.C.**—S. (Materials)

**MARCH 10.**

**Wigan C.B.**—B.E. & S. (Materials).

**MARCH 12.**

***Ourham C.C.**—C.A., Court-la. (Materials).
**Eccles T.C.**—B.S. (Materials).

**MARCH 14.**

**Cuckfield U.D.C.**—S. (Materials).

**MARCH 16.**

**Wortley R.D.C.**—E. & S. (Materials).

**MARCH 18.**

**Chesterfield T.C.**—External painting of Town Hall. B.E. & S. Dep. £1 1s.

**MARCH 21.**

**Bridgnorth T.C.**—External painting of Town Hall. B.S., College House.
***Gillingham T.C.**—B.E. & S. (Materials).

**MARCH 31.**

**Salop C.C.**—Decoration of various schools. County A., 5, Belmont, Shrewsbury.

## ROADS, SEWERAGE AND WATER WORKS

**MARCH 7.**

**Rhondda U.D.C.**—Derelict site clearance at Maerdy-rd., Highfield, Ferndale. E. & S., Council Offices, Pentre, Rhondda.

**MARCH 9.**

**Huntingdon B.C.**—Preparation of American-la. site. Lea, Milner, Doe & Wardley, 4, Markethill, Huntingdon. Dep. £2 2s.
***Peterlee Development Corporation.**—Roads and sewers for 100 houses. A. V. Williams, general manager, Shotton Hall, Castle Eden, Co. Durham.

**MARCH 11.**

**Edmonton T.C.**—Roads and sewers at Heaths Nursery estate. B.E. & S. Dep. £3 3s.

**MARCH 14.**

**Bridlington T.C.**—Road and sewer works at Industrial estate. B.E. & S. Dep. £2 2s.
***Dearne U.D.C.**—Roads and sewers. E. & S. Dep. £2 2s.
**Wolverhampton T.C.**—Extension of mains at Worfield Parish. Water E. & Manager, Town Hall. Dep. £3.

**MARCH 15.**

**Amlwch U.D.C.**—Sewerage pumping station, provision and laying and jointing of cast-iron rising main and concrete tube sewers. Ward, Ashcroft & Parkman, 38, The Temple, Dale-st., Liverpool 2. Dep. £5 5s.
**Wem U.D.C.**—Roads and sewers, etc., at The Grove. S., Council Offices. Dep. £2 2s.

**MARCH 16.**

**Crompton U.D.C.**—Advance preparation of Lower Rushcroft estate. E. & S., Town Hall. Dep. £1.

**MARCH 18.**

†**Bridge-Blean R.D.C.**—Works of sewerage and sewage disposal at Upper Harbledown. D. Balfour & Sons, 131, Victoria-st., S.W.1. Dep. £5.

**Spalding U.D.C.**—Roads and sewers at housing estate. S., Short-st. Dep. £2 2s.
**Walton and Weybridge U.D.C.**—Road and sewer works at Grotto-rd. site. E. & S., Council Offices.

**MARCH 19.**

**Cemaes R.D.C.**—Construction of sewerage scheme at Crymmych. J. Owen Parry & Lewis, Arcade-chbrs., Ammanford. Dep. £5.

**MARCH 21.**

**Denbigh T.C.**—Construction of Henllan sewerage. T. B. Farrington & Son, 18, Trinity-sq., Llandudno. Dep. £3 3s.
***Gillingham T.C.**—Surface dressing of roads. B.E. & S.
**Hailsham R.D.C.**—Roads and sewers at Waldron Thorns, Waldron. E. & S., Cortlandt, Hailsham. Dep. £2 2s.

**APRIL 1.**

**Sutton and Cheam T.C.**—Surface dressing of roads. B.E. and S.

## GENERAL BUILDING WORK

### (LONDON)

**Balham.**—Dwellings.—L.C.C. approved layout plan by Wandsworth Boro' A. for 127 dwellings at Balham High-rd.
**Bermondsey.**—Flats.—B.C. approved plans for 42 flats and 1 shop at Enid-st. (Block 3). Boro' A., C. J. Burnett (F.).
**Bermondsey.**—Flats.—M.H. authorised B.C. to proceed with flats at Adams-gdns. estate (12), Lockyer estate (11) and Arnold estate (6) as soon as L.C.C. approval is received. Boro' A., C. J. Burnett (F.).
**Bermondsey.**—Flats.—M.H. agrees that flats at Staples Rents area (40), Cathay-st. area (27) and Ainsty-st. area (100) should be started before June 30, 1950. Boro' A., C. J. Burnett (F.).
**Croydon.**—Schools and Church.—Southwark Diocesan Schools Commission submitted layout for prim. sch., nurs. sch., church and house at New Addington.
**Hackney.** — Housing. — L.C.C. sanctioned borrowing of £99,600 by B.C. for acquisition of Broadhurst-gdns. for housing.
**Hammersmith.**—Homes for Aged.—To be built at 1-12, Sycamore-gdns. by Hammersmith United Charities.

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**Hampstead.**—Housing.—B.C. to apply to L.C.C. for loan sanctions to purchase Agamemnon-rd. site, Lawn-rd. site and Shoot-up Hill site for housing.
**Hampstead.** — Housing. — L.C.C. sanctioned borrowing of £99,600 by B.C. for acquisition of sites at Broadhurst-gdns. and Compayne-gdns. for housing.
**Islington.**—Flats.—B.C. approved plans for 12 flats at Tollington-park. H. C. H. Monson (F.), 120, Moorgate, E.C.2.
**Islington.**—Flats.—B.C. preparing plans for 24 flats at Queen Margaret's-gro. H. C. H. Monson (F.), 120, Moorgate, E.C.2.
**Islington.**—Dwellings.—B.C. to acquire sites at Alexander-rd. and Kelvin-rd. for erection of 28 dwellings.
**Lambeth.**—Temporary Housing.—B.C. acquired following sites for temporary housing: 1 to 4 (cons.) Seneca-rd.; 31, Hawarden-gro.; 25 to 35, Allington-rd.
**Langham-pl.**—Church.—All Souls Church to be restored. Licence issued to Metropolitan Area Reconstruction Cttee. Cost, £35,000. H. S. Goodhart-Rendel & Partners, 13, Crawford-st., W.1, are the architects.
**Putney.**—Housing.—Wandsworth B.C. to build houses at Putney-vale cemetery site subject to M.H. approval to acquisition of land.
**Southfields.**—Dwellings.—Wandsworth B.C. to submit plans for 36 dwellings at Strathville-rd., prepared by Boro' A., to L.C.C. for approval.
**Southwark.**—Extensions.—To Borough Polytechnic proposed by governors at £130,000 at Thomas Doyle-st. and Lancaster-st. Norman & Dawbarn, architects, 5, Gower-st., W.C.1.
**Stoke Newington.**—Housing.—B.C. propose to develop site at 88-92 (even), Princess May-rd. and 97 and 99, Belgrade-rd. for housing.
**Stoke Newington.**—School.—L.C.C. to erect county prim. sch. at Woodberry Down estate.
**Streatham.**—Dwellings.—Wandsworth B.C. to submit plans for 36 dwellings at Hopton-rd. (No. 1) site to L.C.C. for approval. Boro' A., W. H. Beesley (A.).
**Watford.**—Adaptation.—L.C.C. to purchase Garston Manor at £38,000 for adaptation as sch. for sub-normal children.
**Woolwich.**—Housing.—L.C.C. propose purchase of site at Wrottesley-rd. and Genesta-rd. for housing.

### (PROVINCIAL)

**Abram.**—U.D.C. propose houses at Bickershaw and off Grasmere-la.
**Alnwick.**—Reavell & Cahill, Lloyds Bank-chbrs., are architects for kitchens and dining-rooms at schs. at Northumberland.
**Alsager.**—Cheshire E.C. propose adaptations to old vicarage for classrooms and repairs and improvements at sec. and prim. schs., at £8,000.
**Bakewell.**—U.D.C. propose conversion of Burton Closes, Haddon-rd., into 15 flats. Derbys C.C. propose conversion of Castle Hill and outbuildings for residential sch.
**Batley.**—E.C. propose jun. mixed sch., infts. and nurs. schs. at Fieldhead estate, Birstall.
**Bellingham.**—R.D.C. to develop site for 108 houses. Architects, W. Dixon & Son, 1, Collingwood-st., Newcastle.
**Chesterfield.**—Derbys C.C. propose extensions at Highfield Hall prim. sch.
**Clay Cross.**—Brampton Brewery Co., Ltd., Brampton, propose Tristram Arms Hotel at Holmgate-rd. and Popular Farm.
**Coventry.**—E.C. propose sch. meals training centre and model kitchen at Moseley-av. T.C. propose extensions to central fire station and new fire stations at Tile Hill and Foleshill.
**Dewsbury.**—E.C. propose sec. sch. at Bank Top.
**Durham.**—Plans prepared by C.A., Court-la., for erection of college at Billingham, at £160,000.
**Felling (Co. Durham).**—Spence & Price, St. Mary's-pl., Newcastle-on-Tyne, are architects for additions to works at Pelaw, for R. Bowron & Co., Ltd. U.D.C. approved plans by Page, Son & Hill, 75, King-st., South Shields, for rebuilding of Pear Tree Inn, Sunderland-rd., for A. Deuchar, Ltd.
**Gateshead.**—Newcastle Breweries, Ltd., Haymarket, Newcastle-on-Tyne, planning licensed premises nr. Manor-gdns.
**Gosport.**—T.C. approved plans for 24 houses at Jellicoe-ave. and 6 houses at The Avenue, by Mr. G. U. Northcott.
**Halesowen.**—Frederick Smith, Ltd., Aston Model Brewery, Aston Cross, Birmingham 6, propose hotel at Client View-rd. and Two Gates-la., Fatherless Barn estate.
**Heversham.**—P.C. propose community centre.
**Hexham.**—Fewsters (Stocksfield), Ltd. to build agricultural machinery factory with showrooms, etc., plant at Bridgehaugh, Hexham. Architects, Dixon & Son, 1, Collingwood-st., Newcastle.
**Leigh.**—T.C. propose public hall and civic centre at Pennington Hall site. Plans by J. Walmsley, F.R.I.C.S., B.S.
**Manchester.**—T.C. approved: Factory, Ferdinand-st. and Oldham-rd., Miles Platting, for J. R. Wolfe (Clothiers), Ltd., J. R. Gradwell, architect, 51, South King-st.; canteen at works, Hulme Hall-la., for Morgan, Crossley & Co., Ltd., H. S. Fairhurst & Son (F.), 55, Brown-

st.; additions to chemical works, Canal-st. and Varley-st., Miles Platting, for J. Price, Nunn & Partners, architects, 180, Oxford-rd.; licensed hotel, Oldham-st. and Great Ancoats-st., for P. Yates, B. Waterhouse (F.), 134, Deansgate.

**Netherton Howard.**—Pithead baths to be built. Plans by F. Frizzell, Miners' Welfare Commission, 42, Gt. Portland-st., London.

**Newcastle.**—Alterations to London & Newcastle Stores, West Jesmond. Architect, J. K. Sherwood, 27, Eastfield-ave., Whitley Bay.

**Newcastle (Staffs).**—T.C. approved: Saw mill, stables and garage, Pitgreen-la., Wolstanton, for J. Smith, T. J. Madew, architect, 27, Marsh-parade; extensions to works, Lower Milehouse-la., for Rist's Wires and Cables, Ltd. T.C. propose: Youth centre at Chesterton; branch library at Silverdale.

**Ormskirk.**—Lancs E.C. propose prim. sch., at £180,000.

**Pool.**—Pool Bank Residents' Assn. propose community centre at Quarry Farm-la., O. Holmes & Son, architects, 41, Boroughgate, Otley.

**Rotherham.**—T.C. approved: Five houses, Erskine-rd., for N.C.B.; factory, Gin House-la., for James Wilkinson & Son, Ltd.

**Salford.**—Lancs Refrigeration Co., Ltd., New Bailey-st., propose extensions to works, showrooms, etc., 173-179, Chapel-st., B. Waterhouse (F.), 134, Deansgate, Manchester 3. E.C. propose gram. sch., Eccles Old-rd., Pendleton. W. C. Young (F.), 195, Oxford-rd., Chorlton-upon-Medlock, Manchester 13. Health com. propose day nursery at Hayfield-ter., Pendleton.

**Shrewsbury.**—Shrops E.C. propose boys' mod. high sch. at Monkmoor.

**Urmston.**—U.D.C. approved: Additions, Anaconda Works, Meadows-rd., Trafford Park, for Frederick Smith & Co., Ltd.; additions to works, Richmond-rd., Trafford Park, for B. E. Moore & Co., Ltd.; alterations to works, Lyons-rd., Trafford Park, Ingersoll, Rand & Co., Ltd.

**Workington.**—T.C. approved: Houses at Ashton-st. and Northfield-av., Dunn Bros., builders, Jesmond, Salterbeck; Airey houses, Harrington Parks Farm and 102 Easiform houses, Westfield, for housing com. T.C. propose houses at Northside estate.

**Wymondham.**—Rev. M. Cowin, Church of Our Lady, Norwich-rd., propose memorial church, at £15,000.

## TENDERS

* Denotes *accepted*.
† Denotes *provisionally accepted*.
‡ Denotes *recommended for acceptance*.
§ Denotes *accepted subject to modification*.
¶ Denotes *accepted by H.M. Government Departments*.

**Ashton-under-Lyne.**—94 houses at Rosehill-rd. and Fountain-st. housing estates, for T.C. A. T. Kemp, M.I.Mun.E., B.S., Municipal Offices, Warrington-st.: †W. Plant & Hill Bros., Ltd., Queen's-rd., Ashton-under-Lyne.

**Bakewell.**—24 houses at Tideswell, Great Longstone and Beeley, for R.D.C. A. Lowcock (A.), Matlock-st.: *Barker & Mellor, Bath-st., £15,840 (12); *Furniss & Hassall, Station-rd., Great Longstone, £11,282 (8); *M. & J. C. Turner, £5,396 (4). (All of Bakewell.)

**Bury.**—22 houses at Redvales estate, for T.C. J. Chadwick, M.B.E., A.M.Inst.C.E., B.E., Municipal Offices, 28, Bank-st.: *J. E. France, 45, Assheton-rd., New Moston, Manchester 10, £26,665.

**Chester.**—26 houses at Caughall-rd., Upton-by-Chester, for R.D.C. P. H. Lawson (F.), 2, Pepper-st., Chester: *Alfred Halliwell & Son (Chester), Ltd., Carr Mill, Mill-la., Upton-by-Chester.

**Cookham.**—10 houses from Holyport to Windsor-rd., Bray, for R.D.C. J. H. Beevis, Architect & S., Council Offices, "Oaklands," 1, Bath-rd., Maidenhead: *Halfacre & Young, Holyport-rd., Maidenhead, Berks, £13,198.

**Crewe.**—14 houses at Davenport-av., for T.C.: *Preston & Owens, Thomas-st., £17,850.

**Crosby.**—20 flats at College-rd., Waterloo, for T.C. J. R. Fothergill, A.M.I.C.E., B.E.: *Frank Gatley, "Maryfield," Southport-rd., Lydiate, Lancs, £17,833.

**Crosby.**—Eight houses at Lathom-av., Seaforth, for T.C. J. R. Fothergill, A.M.I.C.E., B.E. & S.: *Gitting Bros., 32, Orchard-dale, Crosby, £11,388.

**Croydon.**—22 Easiform houses at New Addington estate, for T.C.: *John Laing & Son, Ltd., N.W.7, £30,013 (extension of contract).

**Derby.**—Hospital workers' canteen at City Hospital, Uttoxeter-rd., on behalf of Sheffield Regional Hospital Board, for C.B. T. W. East (F.), Boro' A.: *Kirkland (Derby), Ltd., Oakes Yard, St. Peter's-st., Derby, £2,159.

**Droylsden.**—30 flats at Jack-la. site, for U.D.C. Frank Bradley (A.), District Bankchbrs., 4, Wood-st., Bolton: ‡William Chappell & Sons, Ltd., Chappel-rd., Droylsden, nr. Manchester.

**Gateshead.**—Ten houses at Beechwood-gdns., for T.C.: *J. Clark, builder, New Seaham, Seaham Harbour, Co. Durham.

**Glasgow.**—New office buildings to be erected at 27 to 35, Stockwell-st. A. Hunter MacCartney, architect, 36, Henderson-rd., Glasgow: *R. D. Stewart, Ltd., Glasgow.

**Hackney.**—Works, for B.C.: 18 dwellings at Middleton-rd.: *Direct Labour, £25,360; 50 dwellings at Warwick-gr. (South) extension scheme: *Direct Labour, £50,150.

**Hebburn-on-Tyne.**—200 houses for U.D.C. Architects, Page, Son & Hill, 75, King-st., South Shields: *David Glen, Ltd., Albert-rd., Jarrow (40); *Cussins (Contractors), Ltd., Moor Court, Gosforth (50); *G. Bailey, Ltd., King-st., South Shields (50); *W. Hall, Ltd., Derwentwater-rd., Gateshead (30); *J. M. Black, Ltd., Glen-st., Hebburn (30).

**Hornchurch.**—Houses, for U.D.C.: 28 at Elm Park estate, *Grant & Partners, £34,470; 42 at Hacton Farm estate, *J. E. Rogerson, £48,780; 74 at Elm Park estate, *S. H. Lansdell & Sons, Ltd., £86,421.

**Hornsey.**—37 flats, maternity and child welfare centre and council store at Church-la., for T.C. J. H. Melville Richards, A.M.I.C.E., M.I.Mun.E., A.M.I.Struct.E., B.E. & S. Quantities by Selby & Sanders, 25, Victoria-st., S.W.1: *Unera Construction Co., Ltd., 386, Kensington High-st., W.14.

**Islington.**—100 dwellings and communal buildings at St. John's College site, for B.C.:—

| | |
|---|---|
| E. H. Burgess, Ltd., S.W.1 | £266,920 |
| Dove Bros., Ltd., N.1 | 266,847 |
| Davis Contractors, Ltd., N.W.6 | 264,220 |
| Geo. Parker & Sons, Ltd., S.E.15 | 262,875 |
| John Laing & Son, Ltd., N.W.7 | 259,770 |
| E. A. Roome & Co., Ltd., E.9 | 257,480 |
| William Moss & Sons, Ltd., N.W.2 | 256,297 |
| W. J. Simms, Sons & Cooke, Ltd., W.1 | 256,112 |
| F. & H. F. Higgs, Ltd., S.E.24 | 255,768 |
| Allen Fairhead & Sons, Ltd., Enfield | 255,235 |
| Rowley Bros., Ltd., N.17 | 254,970 |
| Harry Neal, Ltd., W.1 | 254,200 |
| Galbraith Bros., Ltd., W.C.1 | 253,848 |
| Wilson Lovatt & Sons, Ltd., S.W.1 | 252,221 |
| *Gee, Walker & Slater, Ltd., 100, Park-la., W.1 | 247,076 |

(Subject to all consents.)

**L.C.C.**—Contracts exceeding £2,500 in value placed by L.C.C. during period ended February 17: Dining-hall, kitchen and stores, etc., at Kingsgate-rd. school, Hampstead, H. Parfitt & Sons, Ltd., Wembley.

**L.C.C.**—Temporary prefabricated buildings, and reinstatement after war damage at King's Warren school:—

| | |
|---|---|
| Bradshaw Bros. (Contractors), Ltd., Sydenham | £16,505 |
| Herbert Richardson & Sons, Ltd., Dartford | 15,872 |
| Thomas Tierney & Co., Ltd., Millwall | 15,602 |
| Stone & Co. (London), Ltd., Croydon | 15,100 |

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*EXPORT ENQUIRIES INVITED*


A. J. Dunning & Sons (Weyhill), Ltd., Woolwich ... £14,685
Gough, Cooper & Co., Ltd., Dartford ... 14,424
Hill & Gurr, Bromley ... 14,327
Thomas & Edge, Ltd., Woolwich ... 14,238
Campbell & McGill, Ltd., Chislehurst 14,110
*Henry Kent (Builders), Ltd., Lewisham 13,876
Architect's comparable estimate is £14,224.

Repairs after war damage and improvements at St. Clement Dane's grammar school:—

| | |
|---|---|
| William Moss & Sons, Ltd., Cricklewood | £19,791 |
| Hunter & Clark, Ltd., Wandsworth | 19,695 |
| J. Jarvis & Sons, Ltd., Westminster | 19,655 |
| Thomas Lowe & Sons, Ltd., Hammersmith | 18,936 |
| Sloggetts (Contractors), Ltd., Kensington | 18,863 |
| W. S. Try, Ltd., Cowley | 18,240 |
| Rogerson & Co. (Builders), Ltd., Holborn | 18,043 |
| Galbraith Bros., Ltd., Holborn | 16,995 |
| A. N. Coles (Contractors), Ltd., Bayswater | 16,526 |
| Unera Construction Co., Ltd., Kensington | 16,021 |
| *H. Parfitt & Sons, Ltd., Wembley | 15,588 |

Comparable estimate of architect in private practice supervising works is £16,995.

Repairs after war damage and improvements at Jessop-rd. school:—

| | |
|---|---|
| Tersons, Ltd., Finsbury | £29,516 |
| J. & C. Bowyer, Ltd., Upper Norwood | 29,347 |
| J. Jarvis & Sons, Ltd., Westminster | 29,315 |
| C. P. Roberts & Son, Ltd., Holborn | 29,188 |
| J. Garrett & Son, Ltd., Wandsworth | 28,995 |
| Yeomans & Partners, Ltd., St. Marylebone | 28,985 |
| F. & H. F. Higgs, Ltd., Camberwell | 28,680 |
| F. Troy & Co., Ltd., Southwark | 28,677 |
| The Demolition & Construction Co., Ltd., Westminster | 28,353 |
| Galbraith Bros., Ltd., Holborn | 26,985 |
| Henry Kent (Builders), Ltd., Lewisham | 26,615 |
| *Gough Cooper & Co., Ltd., Wilmington, Kent | 25,918 |

Comparable estimate of architect in private practice supervising work is £26,472.

Providing facilities for school meals at Poole's Park school:—

| | |
|---|---|
| Fred & T. Thorne, Ltd., Grove Park | £13,519 |
| Prestige & Co., Ltd., Westminster | 13,345 |
| Thos. Bates & Son, Ltd., Romford | 13,275 |
| A. Roberts & Co., Ltd., Westminster | 12,836 |
| Yeomans & Partners, Ltd., St. Marylebone | 12,647 |
| C. P. Roberts & Co., Ltd., Holborn | 12,547 |
| Stewart & Partners, Ltd., St. Marylebone | 12,300 |
| Thomas Tierney & Co., Ltd., Millwall | 12,188 |
| J. M. Hill & Sons, Ltd., Wembley | 11,973 |
| Davis Contractors, Ltd., Kilburn | 11,921 |
| Amalgamated Building Contractors, Ltd., Westminster | 11,519 |
| *Field-Davis, Ltd., Barking, Essex | 10,626 |

Architect's comparable estimate is £11,557.

Reinstatement, etc., of first and ground floors at Oldfield-rd. school:—

| | |
|---|---|
| Pugett Construction Co., Ltd., Lambeth | £7,754 |
| Davis Contractors, Ltd., Kilburn | 6,938 |
| John Lewis Building, Ltd., Perivale | 6,890 |
| Dudley Coles, Tower-st., E.C.3 | 6,196 |
| Thomas Tierney & Co., Ltd., Millwall | 6,095 |
| C. P. Roberts & Co., Ltd., Holborn | 5,817 |
| A. T. Rowley (London), Ltd., Tottenham | 5,742 |
| E. J. Truscott, Ltd., Leyton | 5,200 |
| *F. Troy & Co., Ltd., Southwark | 5,100 |

Architect's comparable estimate is £4,850.

Repairs after war damage and improvements at Morning-la. school:—

| | |
|---|---|
| Prestige & Co., Ltd., Westminster | £61,212 |
| J. & R. Rooff, Ltd., Plaistow | 61,106 |
| J. Jarvis & Sons, Ltd., Westminster | 60,617 |
| E. A. Roome & Co., Ltd., Homerton | 60,216 |
| Thomas Bates & Son, Ltd., Romford | 59,326 |
| Patman & Fotheringham, Ltd., Islington | 58,224 |
| Fred & T. Thorne, Ltd., Lee, Kent | 50,500 |
| Thomas Tierney & Co., Ltd., Millwall | 49,714 |
| Yeomans & Partners, Ltd., St. Marylebone | 48,551 |
| Galbraith Bros., Ltd., Holborn | 47,159 |
| *C. P. Roberts & Co., Ltd., Holborn | 46,728 |

Work being carried out under supervision of architect in private practice, whose comparable estimate is £47,200.

Repairs after war damage and improvements at Robert Montefiore school:—

| | |
|---|---|
| Charles S. Foster & Sons, Loughton | £50,093 |
| J. Garrett & Son, Ltd., Balham | 49,150 |
| Galbraith Bros., Ltd., Holborn | 48,680 |
| Thos. Bates & Son, Ltd., Romford | 48,241 |
| Fred & T. Thorne, Ltd., Lee, Kent | 47,960 |
| F. Troy & Co., Ltd., Southwark | 47,493 |
| Gee, Walker & Slater, Ltd., Westminster | 46,859 |
| Sloggetts (Contractors), Ltd., Kensington | 46,219 |
| *Thomas Tierney & Co., Ltd., Millwall | 44,614 |

Architect in private practice is supervising the work. His comparable estimate is £52,270.

Repairs after war damage and improvements at Vernon-sq. school:—

| | |
|---|---|
| Yeomans & Partners, Ltd., St. Marylebone | £37,589 |
| Tersons, Ltd., Finsbury | 37,416 |
| F. P. Hipperson & Son, Ltd., E.C.2 | 36,892 |

Leslie & Co., Ltd., Kensington ... ... £35,960
Patman & Fotheringham, Ltd., Islington ... ... ... ... ... 35,634
Trollope & Colls, Ltd., Holborn ... ... 35,290
Holland & Hannen and Cubitts, Ltd., Westminster ... ... ... ... ... 35,275
Walter Lawrence & Son, Ltd., E.C.2 ... 34,345
Galbraith Bros., Ltd., Holborn ... ... 33,995
E. A. Roome & Co., Ltd., Hackney ... 33,722
*W. W. Rowney & Co., Ltd., Southwark 31,079
Work being carried out under supervision of architect in private practice, whose comparable estimate is £35,083.

Repairs after war damage and improvements at Wilton-way school:—
F. R. Hipperson & Son, Ltd., E.C.2 ... £44,356
R. J. Rowley, Ltd., Tottenham ... ... 43,890
H. T. Oliver & Sons, Ltd., Stockwell ... 43,865
Thomas Bates & Son, Ltd., Romford ... 43,525
J. Jarvis & Sons, Ltd., Westminster ... 43,470
L. & W. Whitehead, Ltd., Stockwell ... 42,825
Marshall Andrew & Co., Ltd., Westminster ... ... ... ... ... ... 41,800
Galbraith Bros., Ltd., Holborn ... ... 41,706
A. T. Rowley (London), Ltd., Tottenham ... ... ... ... ... ... 39,384
Thomas Tierney & Co., Ltd., Millwall... 39,244
*F. Troy & Co., Ltd., Southwark ... ... 38,612
Work being carried out under supervision of architect in private practice, whose comparable estimate is £40,000.

Repairs after war damage and improvements at Marner-st. school:—
M. J. Gleeson, Ltd., North Cheam, Surrey ... ... ... ... ... ... £43,726
Charles S. Foster & Sons, Loughton, Essex ... ... ... ... ... ... 41,763
Rogerson & Co. (Builders), Ltd., Holborn ... ... ... ... ... ... 41,723
J. & R. Rooff, Ltd., Plaistow ... ... 41,574
Fred & T. Thorne, Ltd., Grove Park ... 41,208
Thomas Tierney & Co., Ltd., Millwall... 37,538
W. J. Cearns, Ltd., Stratford ... ... 33,950
*Corham (Contractors), Ltd., Goring-by-Sea, Sussex ... ... ... ... ... 33,847
Comparable estimate of private architect supervising work is £34,500.

Permanent single-storey building of non-standard construction to provide kitchen and dining accommodation at Kingsgate-rd. school, Hampstead:—
Howard Farrow, Ltd., Golders Green ... £12,202
Yeomans & Partners, Ltd., St. Marylebone ... ... ... ... ... ... 11,977
Thomas Lowe & Sons, Ltd., Hammersmith ... ... ... ... ... ... 11,656
Patman & Fotheringham, Ltd., Islington ... ... ... ... ... ... 11,633
Gee, Walker & Slater Ltd., Contractors, Westminster ... ... ... ... 10,867
Kent & Sussex Contractors, Ltd., Sidcup, Kent ... ... ... ... ... 10,667
A. N. Coles (Contractors), Ltd., Bayswater ... ... ... ... ... ... 10,530
Bernard Sunley & Sons, Ltd., Westminster ... ... ... ... ... ... 10,296
Henry Kent (Builders), Ltd., Lewisham 10,210
Unera Construction Co., Ltd., Kensington ... ... ... ... ... ... 10,024
Y. J. Lovell & Son, Ltd., Paddington ... 9,946
J. M. Hill & Sons, Ltd., Willesden ... 9,756
*H. Parfitt & Sons, Ltd., Wembley ... 9,486
Architect's comparable estimate is £9,690.

Erection of home for the aged at 82, Plumstead Common-rd., Woolwich:—
M. J. Gleeson, Ltd., Cheam ... ... £73,490
C. P. Roberts & Co., Ltd., Holborn ... 70,399
Davis Contractors, Ltd., Willesden ... 70,359
Walker (Tooting), Ltd., Hackbridge ... 69,590
F. R. Hipperson & Son, Ltd., E.C.2 ... 68,937
Prestige & Co., Ltd., Westminster ... 68,465
Thomas & Edge, Ltd., Woolwich ... 66,254
A. T. Rowley (London), Ltd., Tottenham 65,884
Galbraith Bros., Ltd., Holborn ... ... 65,413
E. Clarke & Sons, Ltd., Addlestone ... 64,237
Gilbert-Ash, Ltd., Westminster ... ... 63,937
*Gough Cooper & Co., Ltd., Wilmington 61,971
Comparable estimate of the architect is £65,705.

Construction at Oxley-st. site, Bermondsey, of superstructures of two blocks of flats, comprising 76 dwellings containing 252 rooms, and 20 perambulator sheds:—
Kirk & Kirk, Ltd., Wandsworth ... £149,662
Geo. Parker & Sons, Ltd., Camberwell 145,856
Unera Construction Co., Ltd., Kensington ... ... ... ... ... ... 145,523
Tersons, Ltd., Finsbury ... ... ... 145,120
Gilbert Ash, Ltd., Westminster ... ... 144,686
Rowley Bros., Ltd., Tottenham ... ... 142,369
Thomas & Edge, Ltd., Woolwich ... 139,518
Prestige & Co., Ltd., Westminster ... 136,026
*Gee, Walker & Slater, Ltd., Westminster ... ... ... ... ... ... 135,975
Comparable estimate of appointed architect, Mr. Frank Scarlett, is £140,500.

Erection of block 5 of dwellings and eight perambulator sheds at Maitland Park estate, St. Pancras (contract A), and for erection of block 8 and ten perambulator sheds (contract B) at rates and prices contained in bills of quantities for contract A:—
Carlton Contractors, Ltd., Erith ... ... £52,576
F. R. Hipperson & Son, Ltd., E.C.2 ... 52,113
Dove Bros., Ltd., Islington ... ... 51,436
Charles S. Foster & Sons, Loughton ... £50,926
Patman & Fotheringham, Ltd., Islington ... ... ... ... ... ... 49,431
Perrys (Ealing), Ltd., Ealing ... ... 46,280
Richard Costain, Ltd., Westminster ... 45,976
Davis Contractors, Ltd., Hampstead ... 43,707
Gee, Walker & Slater, Ltd., Westminster ... ... ... ... ... ... 43,600
Gorham (Contractors), Ltd., Goring-by-Sea ... ... ... ... ... ... 42,902
*Tersons, Ltd., Finsbury ... ... ... 40,959
Comparable estimate of the director of housing and valuer is £42,594.

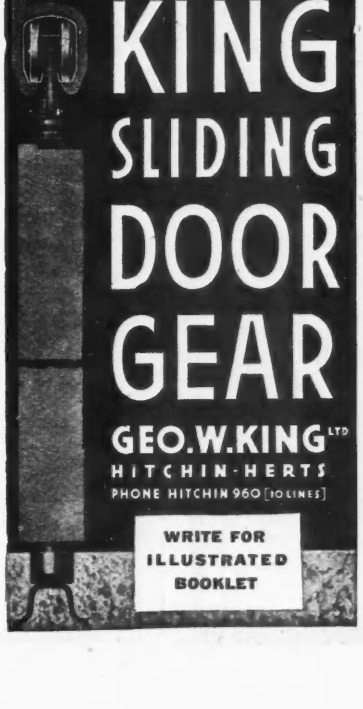
Conversion of 111, High Holborn into a restaurant:—
R. J. Truscott, Ltd., Leyton ... ... £11,662
E. A. Roome & Co., Ltd., Hackney ... 11,479
Geo. L. Edwards, Ltd., E.C.2 ... ... 10,995
F. R. Hipperson & Sons, Ltd., E.C.2 ... 10,972
Patman & Fotheringham, Ltd., Islington ... ... ... ... ... ... 10,956
Thos. Bates & Son, Ltd., Harold Wood, Essex ... ... ... ... ... ... 10,900
Thomas Tierney & Co., Ltd., Millwall... 10,873
A. E. Symes, Ltd., Stratford ... ... 10,770
A. T. Rowley (London), Ltd., Tottenham 10,750
J. & R. Rooff, Ltd., Plaistow ... ... 10,583
Fred & T. Thorne, Ltd., Lewisham ... 10,540
C. P. Roberts & Co., Ltd., Holborn ... 10,387
*J. & J. Dean, Ltd., Leyton ... ... 9,911
Work being carried out under supervision of architect in private practice, whose comparable estimate is £9,820.

**Lewisham.**—86 flats and 12 houses at Baring-rd., for B.C.:—
Harry Neal, Ltd. ... ... ... ... £180,525
F. G. Minter, Ltd. ... ... ... ... 180,450
F. & H. F. Higgs, Ltd. ... ... ... 179,997
Rowley Bros., Ltd. ... ... ... ... 179,300
John Laing & Son, Ltd. ... ... ... 178,750
Galbraith Bros., Ltd. ... ... ... 176,826
Thomas & Edge, Ltd. ... ... ... 176,621
Gee, Walker & Slater, Ltd. ... ... 173,864
Henry Kent (Builders), Ltd. ... ... 173,391
Holloway Bros. (London), Ltd. ... 170,891
Kent & Sussex Contractors, Ltd. ... 168,367
Rice & Son, Ltd. ... ... ... ... 168,355
Kirk & Kirk, Ltd. ... ... ... ... 167,750
‡Borough Architect—Direct Labour (Revised figure) ... ... ... ... 159,116

**Llanfairfechan.**—16 houses at Llwyn Gwgan site, for U.D.C. R. J. Hughes (A.), Briton Villa; †T. Alun Hughes, Llanerch-rd. West, Rhos-on-Sea, Colwyn Bay.

**Llangefni.**—22 houses at Bron-y-Mraig estate, for U.D.C. T. Taliesin Jones, S., Town Hall: *Bryn Davies, Denbigh, £29,512.

**¶London (Air Ministry).**—Contracts to value of £500 or over for week ended February 19: Erection of structural steelwork: R. J. McKinney, Ltd., Belfast. Painting work: Geo. Jones & Son (Contractors), Ltd., Liverpool; J. & B. Abbott (Contractors), Ltd., Harrow, Middlesex. Reconditioning temporary buildings: Uni-Seco, Ltd., London, W.1; C. & T. Painters, Ltd., London, N.W.10. General maintenance work: H. O. Andrews, Ltd., Leeds 8; J. Hughes (Contractors), Ltd., Wrexham.




**¶London (M.O.W.).**—Contracts placed by M.O.W. during week ended February 12:—
*London*: Armour & Union House, London, E.C.2, Alterations to lower ground floor and basement, Walker Symondson, Ltd., Braintree-rd., Ruislip, Middx. *Cambs*: Village College, Sawston, Kitchen and dining-room, Ralph Thompson, Ltd., Fulbourne, Cambridge. *Carmarthenshire*: Nantgaredig C.P. School, Carmarthen, Temporary school building, J. M. Evans (Builders, Carmarthen), Ltd., Blue-st., Carmarthen. *Ches*: Doddington Park Camp, Adaptations, J. T. Gresty & Sons, Ltd., Willaston, nr. Nantwich. *Durham*: Barnard Castle, 50 houses, Higgs & Hill, Ltd., 33, St. Paul's-yd., Leeds; Hetton-le-Hole, Automatic telephone exchange, Isaac Berriman, The Woodlands, Fence Houses, Durham. *Glam*: Pentreporth Boys' Senior School, Swansea, Temporary school building, Rogers & Davies, Humphrey-st. Yard, Swansea; Forestry Commission Housing, Michaelston, one trade and two pairs Swedish houses, Jos. Evans & Helyar, Ltd., Newton Joinery Works, Portheawl. *Lancs*: Bolton, Remploy factory, W. M. Townson & Sons, Ltd., Park Hill-st., Bolton; Chadderton Grammar School, Kitchen and dining-room, James Hartley, Cobden-st., Chadderton, Oldham. *Middx*: Harefield, Automatic telephone exchange, Y. J. Lovell & Son, Ltd., Marsham-la., Gerrards Cross, Bucks. *Somersetshire*: T.O.B., Ensleigh, Bath, Interior decorations, John Perkins & Son, Ltd., St. Mark's-rd., Bristol 5. *Sussex*: Sorting office and telephone exchange, North-rd., Brighton, Interior decorations, W. A. James & Sons, Ltd., 121, Havelock-rd., Brighton. *Warwickshire*: British Council, Mason Croft, Stratford-on-Avon, Repairs and adaptations, J. F. Booth & Son, North Bar, Banbury, Oxon. *Yorks*: Beeston County School, Town-st., Leeds, Kitchen and dining-room, J. Pullan & Sons, Ltd., Harley-ter., Leeds 11; Intake Schools, Beauford-rd. and Fairfax-rd., Doncaster, Kitchen and dining-room, John Holmes (Builders), Ltd., 54, Queen's-rd., Doncaster; Council School, Bubwith, Kitchen and dining-room, Platt & Featherstone, Ltd., Boothferry-rd., Goole.

**¶London (War Dept.).**—Works contracts placed by War Dept. for week ended February 12:—
*Lancs*: Painting work, Gregory & Jackson, Ltd., Manchester 2. *Derbys*: Miscellaneous work, Harris Bros. (Marehay), Ltd., Marehay, Derbys. *Brecon*: Painting work, Geo. Jones & Sons (Contractors), Ltd., Liverpool 6. *Essex*: Building work, A. D. Jackson & Son (Contractors), Ltd., Southend-on-Sea (two contracts). *Berks*: Building work, A. J. Dunning & Sons (Weyhill), Ltd., Andover, Hants; Miscellaneous work, Janes (Builders), Ltd., Slough, Bucks. *Devon*: Concrete flooring, James Bros. (Weymouth), Ltd., Weymouth, Dorset. *Co. Down*: Miscellaneous work, R. D. Pollock & Co., Ltd., Bangor, Co. Down.

**Manchester.**—Additional storey to Ink Works, Darley-st., Ardwick, for Ault & Wiborg, Ltd. H. McLellan (L.), 22a, High-st., Stockport: *Charles Clarke, 2, Clifford-rd., Poynton via Stockport.

**Manchester.**—Four houses at Fairfield-rd. and Hawthorn-rd., New Moston. Matley, Brotherton & Mills, architects, 39, Oxford-rd., Chorlton-upon-Medlock: *A. Winterbottom, "Hillcrest," Hawthorn-rd., New Moston, Manchester 10.

**March.**—28 houses for U.D.C.: *J. T. Cox & Sons, £36,114.

**Market Drayton.**—16 houses at Hodnet, for R.D.C. Hind & Brown (L/A), District Bankchbrs., Market-st., Stoke-on-Trent, Staffs: *G. A. Poole, 37, Liverpool-rd., Newcastle, Staffs, £28,080.

**Newcastle-on-Tyne.**—Offices, showroom and workshop at Shields-rd. Architect, M. A. Mackenzie, 1, Eldon-sq., Newcastle-on-Tyne: *Wesley H. Oliver, Ltd., Bolbec-rd., Newcastle-on-Tyne.

**Newcastle-on-Tyne.** — Preliminary training school for nurses at Fleming Memorial Hospital, for Newcastle Hospital Board: *R. Bowey & Son, 190, Back Raby-st., Newcastle-on-Tyne, £5,312.

**Newcastle-on-Tyne.**—Cardio-vascular centre at General Hospital, for Newcastle-on-Tyne Hospital Board: *E. Jeffcock (Contractors), Ltd., New Bridge-st., Newcastle-on-Tyne, £5,420.

**Northumberland.**—Police houses for C.C. Two at Hexham: *J. Newman & Sons, 19, Hextoler., Hexham. Two police houses and police office at Corbridge: *Dodds & Son, Morpeth.

**Ormskirk.**—Junior and infants' school, Greetby-hill, for Lancashire E.C. G. Noel Hill (F.), County A., County Offices, Fishergate-hill, Preston: *John Lucas & Son (Builders), Ltd., Eccleston-st., Prescot, nr. Liverpool.

**Radcliffe.**—28 houses at Ainsworth housing site, for T.C. T. Kay, B.S. Bills of quantities by T. S. S. Smith & Partners, Clifton Lodge, Crescent, Victoria Park, Manchester 14: *W. Clare, 94, Stopes-rd., Little Lever (12); *J. Unsworth, 179, Bolton-rd., Westhoughton (16). £1,253 and £1,254 per house in pairs. £5,372 per block of four (both nr. Bolton).

**Renfrewshire.**—New nurses' home, for Paisley Infirmary. Sir John Burnet, Tait & Partners, architects, 44, Charlotte-sq., Edinburgh, and Binnie, MacKay & Hutton, quantity surveyors, 22, High-st., The Cross, Paisley: Excavations,

brick and mason works, etc., *Johnstone, Ltd., St. James-st., Paisley; plumber and sanitary engineering works, etc., *James Kilpatrick & Sons, Old Sneddon-st., Paisley; carpentry, joinery and allied works, etc., *William Gibson & Co. (Builders), Ltd., St. James-st., Paisley; glazing and allied works, etc., *The Scottish National Glass and Glazing Co., Ltd., Dobbies Loan, Glasgow; asphalt works, etc., *The Limmer & Trinidad Lake Co., Ltd., Hope-st., Glasgow; flooring and tiling works, etc., *James Youden & Sons, Ltd., Baltic-st., Glasgow; slating and allied works, etc., *Daniel B. Wardrop, Dobbies Loan, Glasgow; painting, decorating and allied works, etc., *David Bett & Sons, Wellmeadow-st., Paisley; plaster, lathing and allied works, etc., *David S. Lang, New Sneddon-st., Paisley.

**Rochdale.**—Alterations and additions to offices at 152, Tweedale-st., for Co-operative Insurance Society, Ltd., 109, Corporation-st., Manchester 4: †W. H. Ashworth & Son, Ltd., Stanhope-st., Rochdale.

**Rochdale.**—Four police houses, Colne-st., for T.C. H. W. G. Mercer, B.S.: *A. Cassel & Son, Ltd., Teneriffe-st., Broughton, Salford 7.

**St. Marylebone.**—Adapting Nos. 39-41, Nottingham-pl., W.1, as "halfway-house," for B.C.: ‡Allsites, Ltd., 55, Pall Mall, W.1, £4,492.

**Southampton.**—Erection of new Weston-la. junior and infants' school, for C.B. Boro' A., Civic Centre:—

| | |
|---|---|
| Rice & Son, Ltd., Southampton | £81,469 |
| Wilson Lovatt & Sons, Ltd., Wolverhampton | 80,577 |
| J. Bates & Son, Southampton | 80,104 |
| Anglo-Scottish Construction Co., Ltd., London | 79,173 |
| Janes (Builders), Ltd., Slough | 76,631 |
| F. Troy & Co., Ltd., London | 76,490 |
| G. E. Prince & Son, Ltd., Southampton | 75,956 |
| Amalgamated Building Contractors, London | 75,433 |
| A. J. Dunning & Sons (Weyhill), Ltd. | 74,980 |
| A. E. Dukes & Son, Ltd., Southampton | 74,917 |
| R. H. & A. W. J. Hinton, Southampton | 74,275 |
| Brazier & Son, Ltd., Southampton | 73,189 |
| W. T. Nicholls (Southern), Ltd., Southampton | 72,469 |
| Tersons, Ltd. | 71,684 |
| H. C. Janes, Ltd., Luton | 71,575 |
| *J. J. Udalls Building Co., Ltd., Southampton | 70,246 |

**South Shields.**—School meals canteen, etc., at Stanhope-rd. school: *W Fails, Ltd., 199, Coatsworth-rd., Gateshead.

**Stockport.**—74 houses at Houldsworth Estate, Reddish, and completion of Vernon-av. site, for T.C. Wm. F. Gardner, M.Inst.C.E., B.S.: *W. Farley & Sons, Ltd., 129, Longfield-rd. West, Reddish (62); *Westhead & Sephton, Ltd., 50, Crescent-rd. (12). (Both of Stockport.)

**Stockton-onTees.**—Roads and sewers and erection of 146 houses at Durham-rd. estate, for T.C. A. G. Sinclair, Boro' A., 28, The Square, Thistle Green, Stockton. Roads and sewers: *G. Wimpey & Co., Ltd., Newcastle-on-Tyne, £165,721; houses: *Lane, Fox & Co., Ltd., Norton, Stockton-on-Tees, £169,457.

**Stockton-on-Tees.**—Works canteen at Bowesfield-la.: *Tarslag, Ltd., Bowesfield-la., Stockton-on-Tees.

**Stourbridge.**—Buildings, pumping station, etc., at Belle Vale sewage works, Halesowen, for Upper Stour Valley Main Sewerage Board. G. Plant Deeley, M.Inst.C.E., 13, Church-st.: *J. Harper Son (Blackheath), Ltd., Blackheath, Birmingham, £20,078.

**Stretford.**—64 flats at Barton-rd. site, for T.C. A. H. Perry, A.M.Inst.C.E., B.S., Town Hall, Talbot-rd., Stretford, nr. Manchester: *W. Lionel Gray (1933), Ltd., Hospital-bldgs., Hospital-rd., Farnworth, nr. Bolton (34); *C. H. Godfrey & Sons, Ltd., Bowling-rd., Gorton, Manchester 18 (30).

**Wallsend.**—100 houses for T.C.: *J. H. Armstrong, Denton, Newcastle (50); *J. H. James, Rose Hill, Wallsend (50).

**Walthamstow.**—8 houses at Brookfield estate, for B.C.: *G. G. & J. Barker, Ltd., £1,305 per house (subject to M.H. approval).

**Wednesbury.**—18 houses at Crew-rd., for T.C.: *G. Wright & Co., Ltd.; eight at Dangerfield-la.: *G. Wright & Co., Ltd., £9,205.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